MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Air Quality**

ORIGINAL REQUEST:

2. Please evaluate and comment on the technical and economic feasibility of the following construction equipment emission reduction methods and technologies. Please reference the source of all information reported and compare these methods to those described on page 6.8-57 of the AFC.
   A. Retarding engine timing on construction equipment (2 to 4 degrees),
   B. Using construction equipment with pre-combustion chamber engines,
   C. Using diesel fire construction equipment with high pressure injectors,
   D. Installing catalytic converters on all gas power construction equipment,
   E. Replacement of diesel generators with electric driven motors via existing power transmission corridors where possible,
   F. Installing oxidation catalysts on all diesel powered construction equipment,
   G. Installing oxidizing soot filters on all applicable diesel powered construction equipment,
   H. Installation of ceramic engine coatings to all applicable diesel powered construction equipment,
   I. Using alternative, low-emission fuels (i.e., CNG) and/or fuel additives (i.e., PuriNO_x) for all construction equipment, and
   J. Using low sulfur content (50 ppm or better) diesel fuel for on-site construction equipment.

SUPPLEMENTAL RESPONSE:

During the workshop on July 26, 2000, the CEC staff requested that MVPC consider accepting the following three construction-phase air quality mitigation measures:

- Use of high-pressure fuel injection or fuel injection timing retard
- Use of soot filters
- Use of ultra-low sulfur Diesel fuel

MOUNTAINVIEW POWER PLANT PROJECT SUPPLEMENTAL RESPONSES TO FIRST SET OF DATA REQUESTS (00-AFC-2)	
Technical Area	**Air Quality**

High-pressure fuel injection or fuel injection timing retard — MVPC will accept a construction-phase air quality mitigation measure requiring the use of either (1)˚high-pressure fuel injection, (2) fuel injection timing retard on suitable construction equipment, or (3) use of equipment with engines certified to EPA off-road equipment emission standards.

Soot filters - MVPC is evaluating the use of soot filters on construction equipment and will provide a thorough analysis of the feasibility of this technology by August 8, 2000, in time for the proposed August 10, 2000 data request workshop. MVPC would like to further discuss this issue with commission staff at that time.

Use of ultra-low sulfur Diesel fuel — MVPC would be willing to accept a construction-phase air quality mitigation measure requiring the use of ultra-low sulfur content (15 ppm) Diesel fuel.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Air Quality**

ORIGINAL REQUEST:

7. Please evaluate the contribution of ammonia slip emissions from the proposed power plant on the formation of secondary PM10.

SUPPLEMENTAL RESPONSE:

During the workshop on July 26, 2000, the CEC staff requested additional information regarding the response to Data Request Number 7. As discussed in the response to Data Request Number 7, the eastern portion of the South Coast Air Basin, where the Mountainview Power Plant Company (MVPC) project is proposed to be located, is generally ammonia rich. This conclusion is discussed in the attached e-mail (Attachment AQ-7A) that Sierra Research recently received from the South Coast Air Quality Management District that summarizes 1995 annual average ambient nitric acid and ammonia concentrations for several monitoring stations in the air basin. As shown by the figures attached to the e-mail the concentrations of ammonia for the monitors located in the eastern portion of the air basin range from approximately 5 to 20 times the nitric acid concentrations. The conclusion is further supported by information shown on the attached table developed by Sierra Research (Attachment AQ-7B) that summarizes 1995 annual average ambient air quality data for several monitoring stations operated by the South Coast Air Quality Management District. As shown on this table, based on annual average monitoring data collected by monitoring stations located in the eastern portion of the South Coast Air Basin, this portion of the air basin is considered ammonia rich, with ammonia concentrations more than twice total sulfur concentrations.

ATTACHMENT

AQ-7A

-----Original Message-----
From: Bong-Mann Kim [mailto:bkim@aqmd.gov]
Sent: Thursday, July 13, 2000 3:55 PM
To: 'GRubenstein@SierraResearch.com'
Cc: Joe Cassmassi; Henry Hogo
Subject: 1995 episode days

Gary,

PM10 ammonium concentrations for the 1995 episode days are summarized in the following. One power point file is attached that contains the annual average ammonia and nitric acid concentrations. This file will help you defend the claim that the inland area is ammonia-rich.

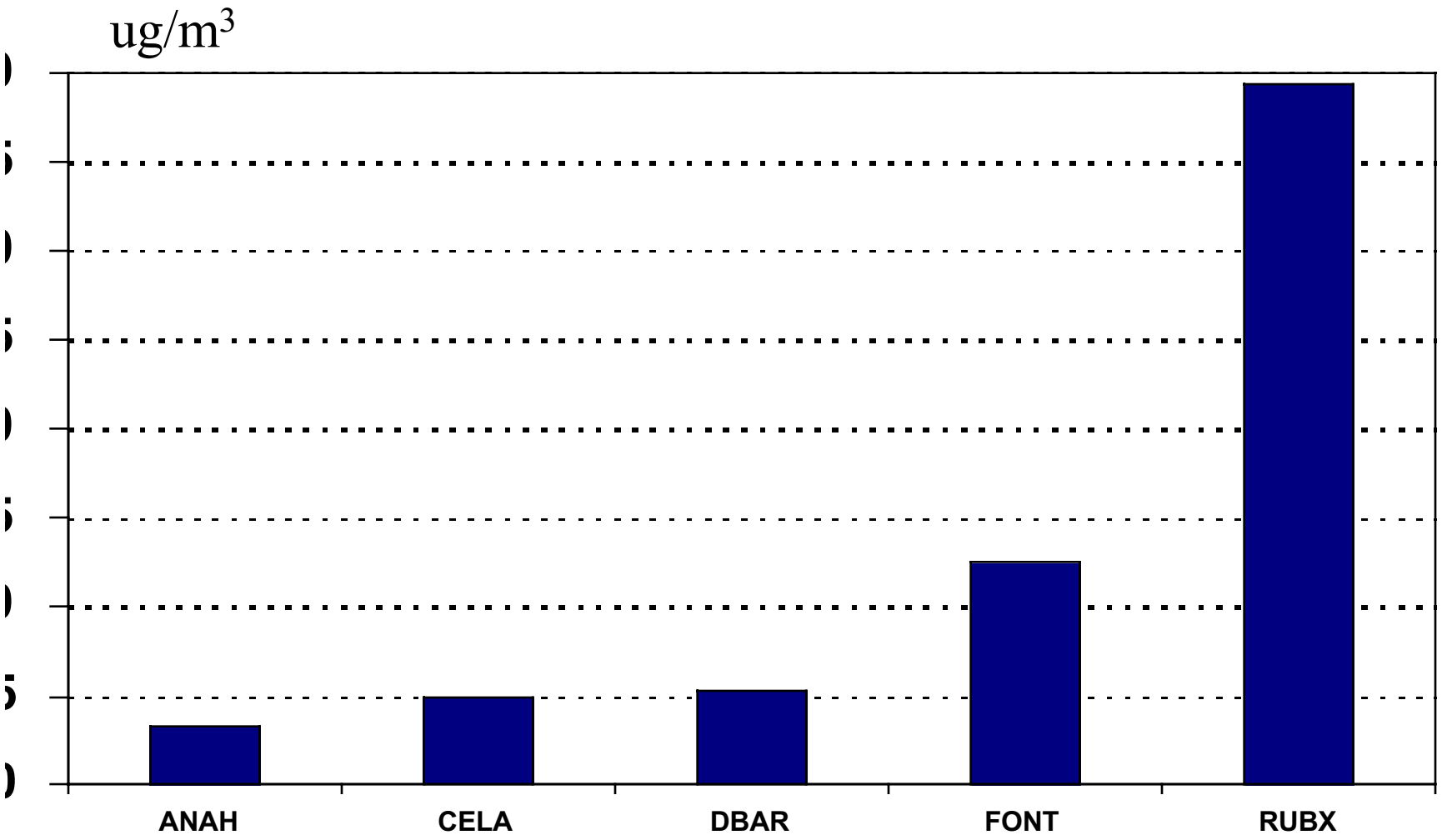
Ammonium (ug/m3)

October 17	Rubidoux	9.78
October 18	Rubidoux	14.69
October 19	Fontana	16.24
October 20	Rubidoux	19.64
November 15	Fontana	18.26
November 16	Fontana	25.93
November 17	Rubidoux	25.43
November 18	Diamond Bar	33.71

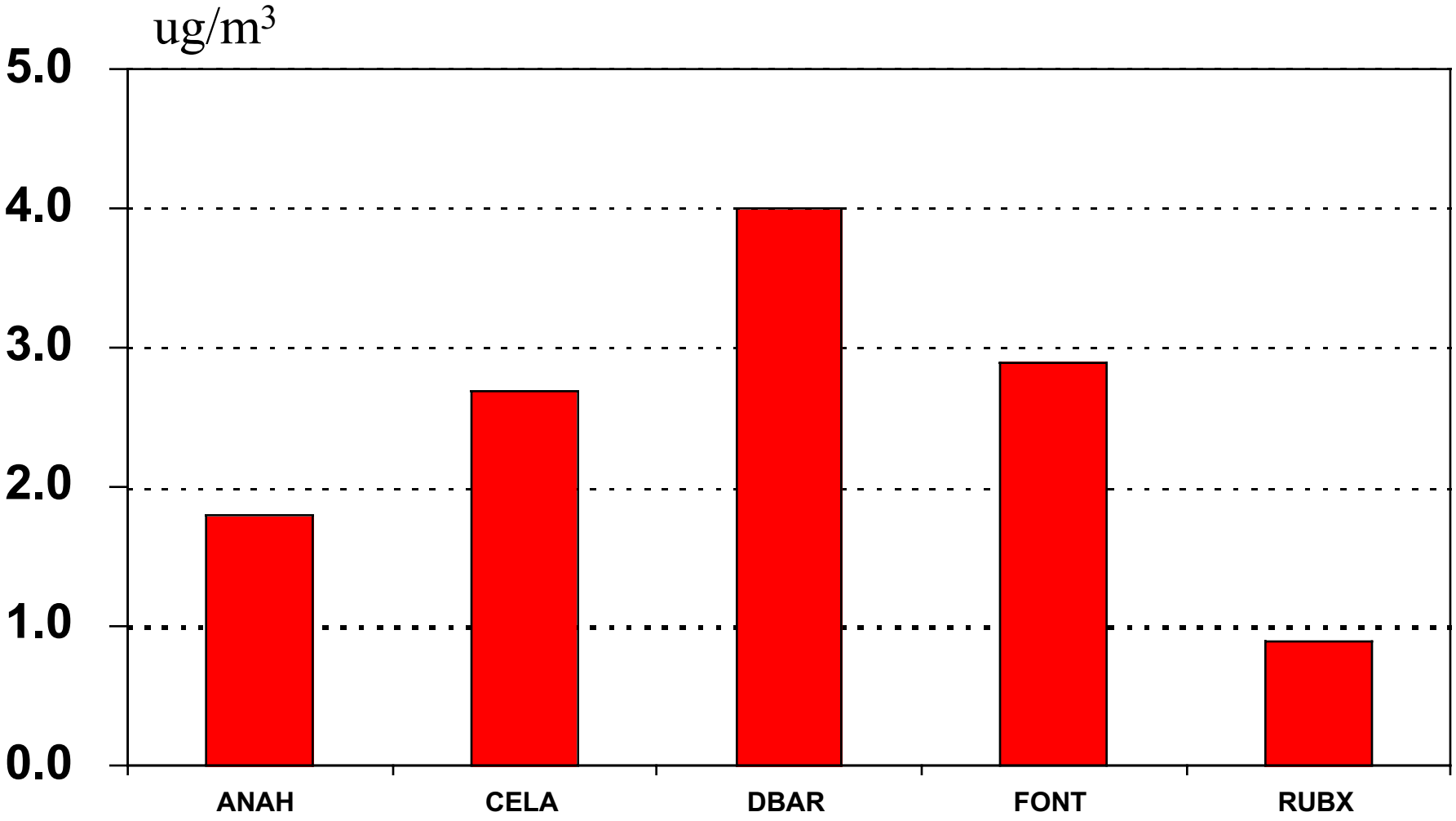
Bong

<<HNO3_NH3.PPT>>

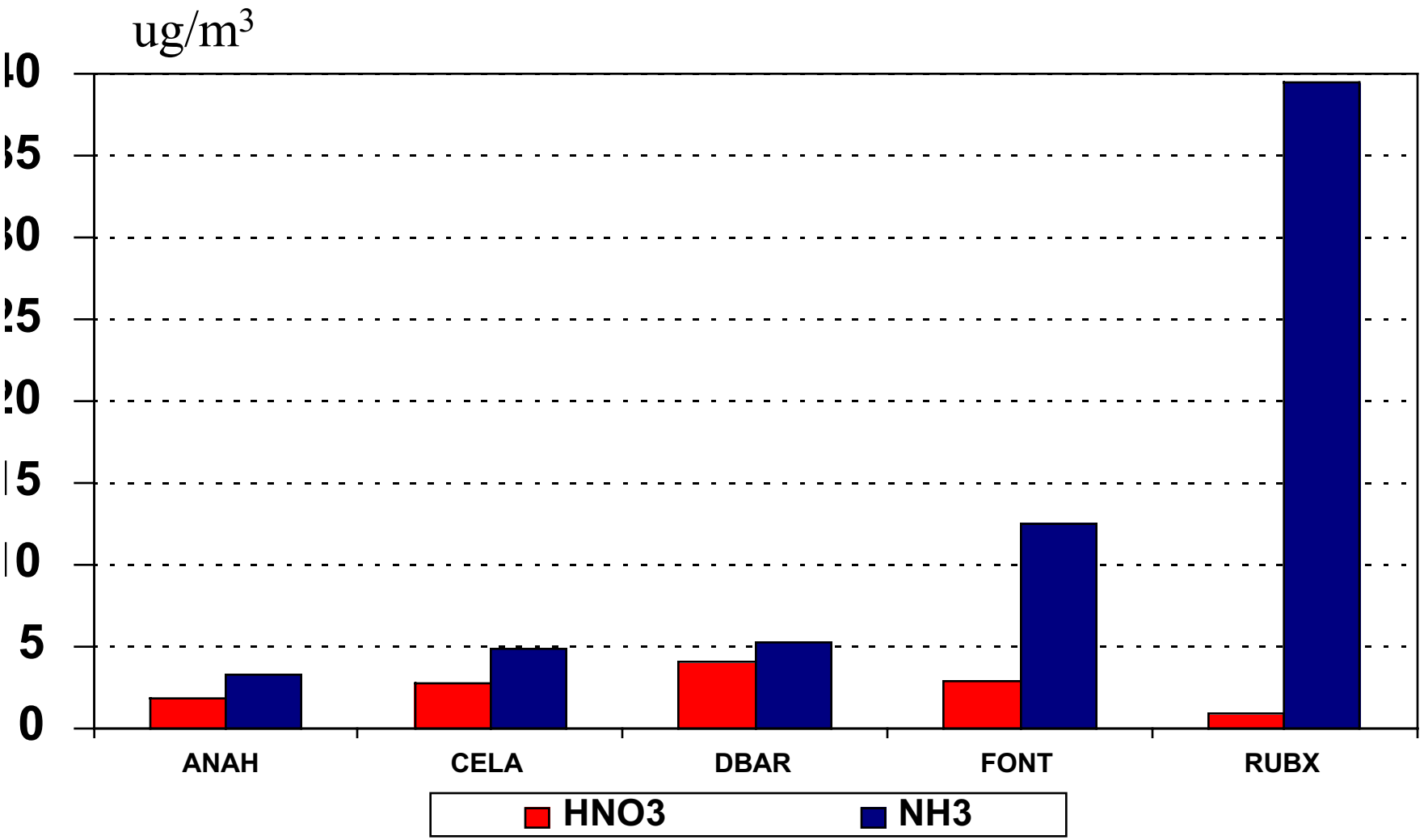
Annual Average Air Toxics Concentration



Annual Average Nitric Acid Concentration



Annual Average Nitric Acid And Ammonia Concentrations



ATTACHMENT
AQ-7B

Summary of Total Ammonia and Sulfur 1995 Annual Average Ambient Air Quality Data MVPC Project								
Monitoring Station	NH3(1) (ug/m3)	Total N in Ammonia (TA) (ug/m3)	SO2(2) (ppm)	SO2 (ug/m3)	total susp. SO4(2) (ug/m3)	Total S (TS) (ug/m3)	Molar Ratio TA to TS	Ammonia Rich(3)?
Anaheim	3.30	2.72	0.002	5.20	5.47	4.42	1.40	no
Central LA	4.90	4.04	0.002	5.20	5.81	4.54	2.03	yes
Diamond Bar	5.30	4.36	0.001	2.60	5.81	3.24	3.08	yes
Fontana	12.50	10.29	0.001	2.60	4.46	2.79	8.44	yes
Rubidoux	39.40	32.45	0.001	2.60	4.19	2.70	27.50	yes

Notes:

(1) Based on information provided by the South Coast AQMD.

(2) Based on information in CARB's "Summary of 1995 Air Quality Data Gaseous and Particulate Pollutants".
SO2 concentration for Anaheim taken from Costa Mesa monitor since there is no SOx monitor in Anaheim.
SO2 concentration for Diamond Bar taken from Burbank monitor since no SOx monitor located in Diamond Bar.

(3) Based on ammonia-rich meaning the molar ratio between total ammonia and total sulfur is greater than 2 (ref.: Seinfeld & Pandis, "Atmospheric Chemistry and Physics", p.538).

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Air Quality**

ORIGINAL REQUEST:

10. Please provide a copy of the original, uncorrected meteorological data file from the Redlands monitoring station for the year of 1981. If this information is not available, please provide a letter from the South Coast Air Quality Management District stating that the 1981 Redlands meteorological data was corrected according to US EPA recommended guidelines.

SUPPLEMENTAL RESPONSE:

In the modeling protocol that was submitted to the South Coast AQMD and the CEC on September 21, 1999, we provided an analysis explaining the representativeness of the 1981 Redlands meteorological data for the MVPC modeling analysis. This modeling protocol was approved by the South Coast AQMD on November 1, 1999. A copy of the modeling protocol was also included as Appendix G.4 of the AFC for the MVPC project. Furthermore, as discussed in Section 6.8.3.2.4.1 of the AFC, the CTSCREEN model was used to analyze one-hr NO_2 in the complex terrain to the south of the project site. Since the CTSCREEN modeling uses default screening level meteorological data, the question regarding the representativeness of the 1981 Redlands meteorological data is not an issue regarding worst-case short-term NO_2 impacts. Included as Attachment AQ-10A in the original responses to this data request was a copy of an e-mail from the South Coast AQMD modeling group concluding that the use of the 1981 Redlands meteorological data is appropriate for the proposed Mountainview Power Plant project. Attached to this supplemental response as Attachment AQ-10B is the Redlands Monitoring Station Siting information received from the SCAQMD.

ATTACHMENT

AQ-10B

(Not in Electronic/ CD-Rom Version)

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area **Air Quality**

ORIGINAL REQUEST:

14. Please verify the height of the emergency generator exhaust stack.

SUPPLEMENTAL RESPONSE:

During the July 26, 2000 workshop the CEC staff requested that MVPC confirm the engine rating for the proposed emergency generator. The engineering firm of Duke Fluor Daniel recently confirmed the emergency generator Diesel engine rating of approximately 5,900 bhp shown on Table G.3.7 of the AFC. This corresponds to an electrical generation rating of approximately 4,000 kW. In the event that power is not available from the grid, the emergency generator would be used to supply power to start up the two existing natural gas-fired boilers at the MVPC facility (i.e., Units 1 and 2). Once the two existing boilers are operating, these units would supply the necessary power to start up the gas turbines/HRSGs. The following is a summary of the power requirements to start up Units 1 and 2:

Summary of Electrical Power Requirements to Start Up Existing Boilers
MVPC Project

Equipment	Power Requirements
BFW pump	1,517 kW
Fans	1,800 kW
Miscellaneous loads	152 kW
Total =	3,469 kW

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Biological Resources**

ORIGINAL REQUEST:

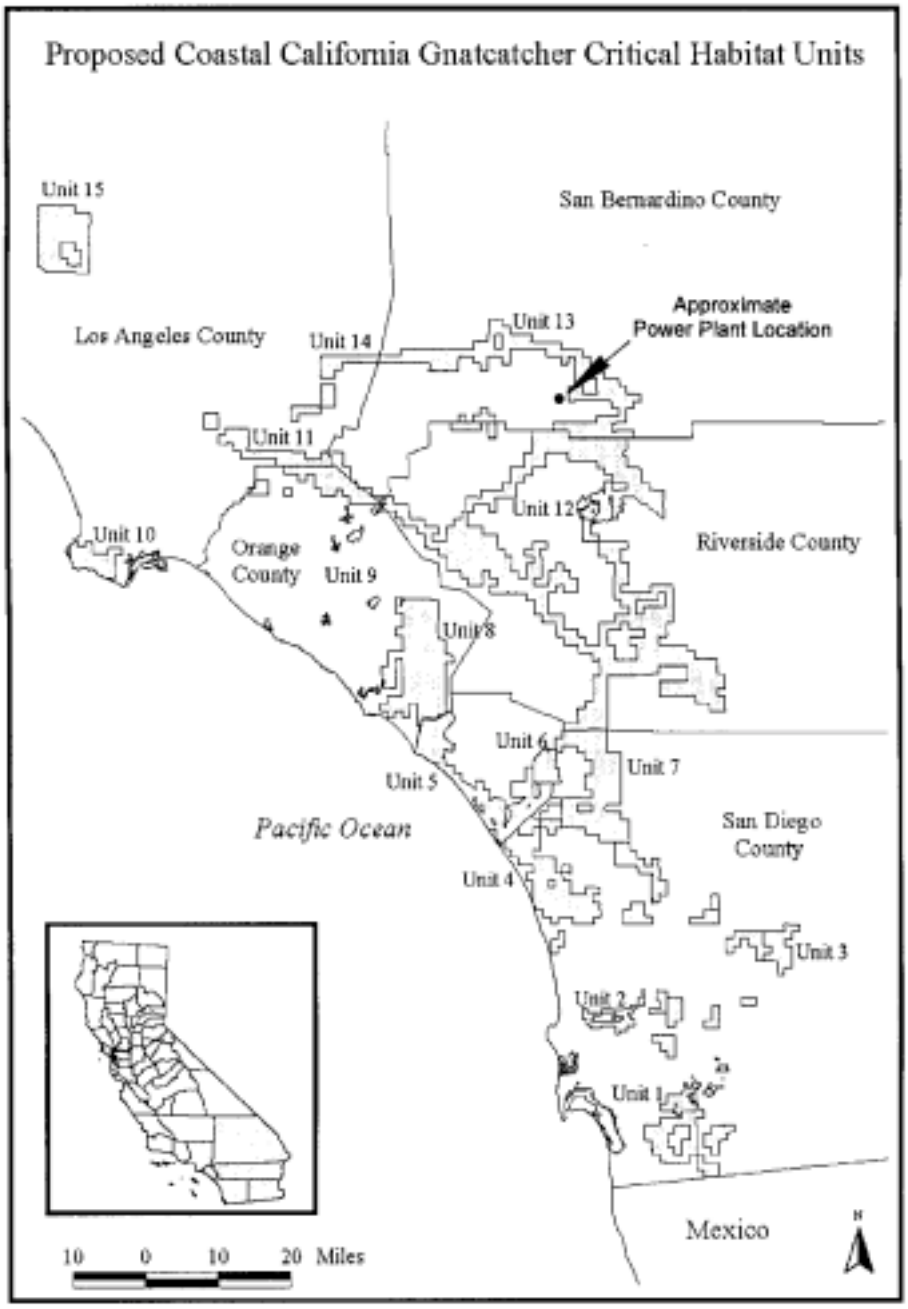
19. Please identify the location of California gnatcatcher proposed critical habitat in relationship to all proposed project features, and the potential for direct, indirect and cumulative impacts on the critical habitat.

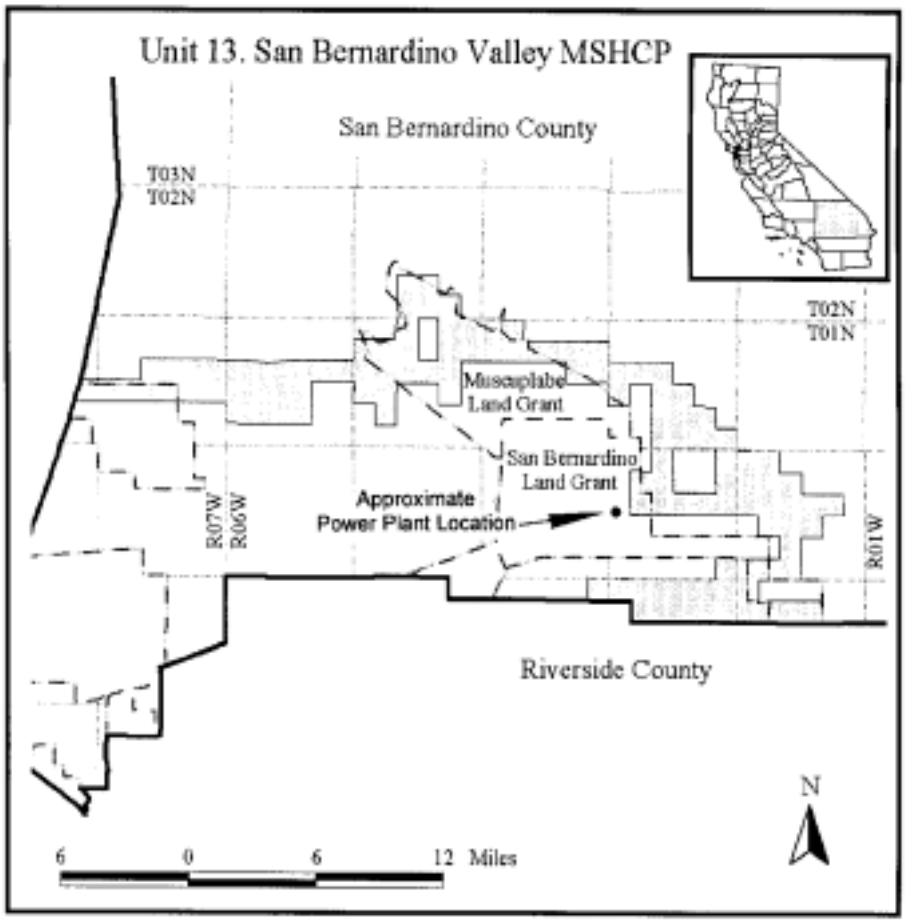
SUPPLEMENTAL RESPONSE:

According to USFWS Federal Register dated February 7, 2000 (Vol 65, Number 25) page 5952 and associated maps, the project area is located in Unit 13 of the proposed critical habitat of the Coastal California gnatcatcher. The proposed critical habitat maps are included as Attachment BIO-19A. As indicated on the maps and in the description provided on page 5952, neither the plant site nor the proposed natural gas pipeline route fall within the boundaries of Unit 13 of the proposed critical habitat. Based on the description provided on page 5952, the nearest proposed critical habitat to the plant site is located on Norton Air Force Base (currently San Bernardino International Airport). Based on the available information, the assessment of direct and indirect impacts to the Coastal California gnatcatcher species, as presented in our original response to data request #19, does not change.

ATTACHMENT

BIO-19A


Proposed Coastal California Gnatcatcher Critical Habitat Units
Unit 15
San Bernardino County
Approximate
Power Plant Location
Los Angeles County
Unit 14
Unit 13
Unit 11
Unit 12
Unit 10
Orange
County
Unit 9
Riverside County
Unit 8
Unit 6
Unit 7
Unit 5
Pacific Ocean
San Diego
County
Unit 4
Unit 3
Unit 2
Unit 1
Mexico
10 0 10 20 Miles
N


Unit 13. San Bernardino Valley MSHCP
San Bernardino County
T03N
T02N
T02N
T01N
Muscaplabe
Land Grant
San Bernardino
Land Grant
Approximate
Power Plant Location
R07W
R06W
R01W
Riverside County
N
6
0
6
12 Miles

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Biological Resources**

ORIGINAL REQUEST:

20. Please provide in a table format:

    a. Total acres that will be temporarily or permanently impacted by the project facilities (power plant, and each linear facility including transmission lines, natural gas, freshwater, and wastewater pipelines) during project construction and operation.

    b. Total acres that will be temporarily or permanently impacted by the construction and usage of the project s off-site staging areas for the natural gas, freshwater, and wastewater pipeline construction.

    c. Total acres of each plant community type that will be temporarily or permanently impacted by all project facilities (power plant, and each linear facility including transmission lines, natural gas, freshwater, and wastewater pipelines) and off-site staging areas. Please identify plant communities using resource agency-accepted community identification [Holland (1986) or Sawyer and Keeler-Wolf (1995)].

    d. Total acres of permanently or temporary impacted lands that are conserved lands? Conserved lands are defined as lands managed by either a federal or state agency such as the Bureau of Land Management, Department of Energy, or the California Department of Fish and Game (CDFG) or a private habitat protection organization such as the Center for Natural Lands Management.

SUPPLEMENTAL RESPONSE:

The original response included the following table, Table BIO-20a, with acreage amounts for the temporary or permanent impacts associated with the proposed project. Below is a slightly revised Table BIO-20a. It has been corrected to show 0 acres for freshwater pipeline because an existing line will be used.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area **Biological Resources**

Table BIO-20a
Acreage Amounts

A. Project Facilities	**Temporarily Impacted**	**Permanently Impacted**
Power Plant	3.00 acres	18.70 acres
Transmission Lines	Project proposes no change	Project proposes no change
Natural Gas Pipeline	206.00 acres*	0 acres
Freshwater Pipeline	0 acres	0 acres
Wastewater Pipeline	2.53 acres*	0 acres
	Temporarily Impacted	**Permanently Impacted**
B. Off-Site Staging Areas		
Natural Gas Pipeline	3 acres	0 acres
Freshwater Pipeline	0 acres	0 acres
Wastewater Pipeline	0 acres	0 acres
C. Plant Community		
Power Plant		
Ruderal	0 acres	18.7 acres
Transmission Lines	*Project proposes no change*	*Project proposes no change*
Natural Gas Pipeline		
Ruderal	1.88 acres*	0 acres
Freshwater Pipeline	0 acres	0 acres
Wastewater Pipeline		
Ruderal	2.31 acres**	0 acres
Ornamental Planting	.2 acres	.2 acres
D. Conserved Lands		
Power Plant	0 acres	0 acres
Transmission Lines	*Project proposes no change*	*Project proposes no change*
Natural Gas Pipeline	0 acres	0 acres
Freshwater Pipeline	0 acres	0 acres

MOUNTAINVIEW POWER PLANT PROJECT SUPPLEMENTAL RESPONSES TO FIRST SET OF DATA REQUESTS (00-AFC-2)		
Technical Area	**Biological Resources**	
Wastewater Pipeline	0 acres	0 acres
• assume 100 foot right-of-way for pipeline estimates ** within golf course		

At the workshop on July 26th, staff noted that the acreage amount for the power plant facilities being permanently impacted included only 18.7 acres of ruderal property, even though MVPC was acquiring significantly more property from SCE. This was correct. Much of the property being acquired is already developed with facilities or is only being temporarily used.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area **Biological Resources**

ORIGINAL REQUEST:

21. Please identify the width of all trench corridors, separating the area needed for the trench and areas required for construction equipment, the width for the waterway crossings, and indicate if the corridors would be maintained at any specific level of vegetative cover or left unmaintained during operations.

SUPPLEMENTAL RESPONSE:

Corridor Widths	Width	Total Area Temporarily Impacted
Trench Corridor	100 feet	239.4 acres
Waterway Crossings		
Santa Ana River	100 feet	1.88 acres
Twin Creek Channel	25 feet	.36 acres
Etiwanda Creek	20 feet	.23 acres

Etiwanda Creek cannot be eliminated as a potential trenching operation adjacent to Arrow Route. MVPC is continuing its analysis of how Etiwanda creek can be crossed. All data presented to date has assumed that a trenching operation would occur. Biology impact assessments, field surveys, and analysis have included Etiwanda Creek as a trenching. As design of the gas pipeline advances it may be possible to avoid such activities, but at this time MVPC requires a permit for the gas line that includes Etiwanda Creek.

The Santa Ana River will be crossed via directional boring which eliminates direct impacts to biology at that location. The starting and stopping points for the boring operation will be within ruderal, tilled, and modified field areas.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Biological Resources**

ORIGINAL REQUEST:

Please identify for each alternative route:

31. Total acres of riparian or wetland habitat that would be permanently or temporarily impacted by construction of the natural gas pipeline [if trenching becomes the only feasible alternative].

SUPPLEMENTAL RESPONSE:

At the workshop on July 26, 2000, Commission staff explained that ruderal habitat could be classified as riparian if water was regularly present. In essence, ruderal non-native species could accommodate wildlife under such circumstances. Because the Santa Ana River will be directionally bored, only the Etiwanda Creek presents such a potential riparian habitat. An analysis of the vegetation and wildlife characteristics of potential Etiwanda Creek crossings will be conducted and the results provided by August 10, 2000. A worst case scenario would have less than .1 acres of riparian habitat be temporarily impacted on the preferred route should Etiwanda creek be trenched adjacent to Arrow Route.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area **Cultural Resources**

ORIGINAL REQUEST:

39. Please provide a copy of the correspondence received or a summary if the response was a phone call, if any Native Americans responded to the notification letters sent by the applicant. Please address whether there has been consultation with members of the Native American community. If Native Americans have expressed concerns regarding cultural resources in the project area, please discuss how the applicant will address those concerns.

SUPPLEMENTAL RESPONSE:

The original response to data request 39 indicated that one response had been received. The response that was intended to be referred to was a letter from Lowell J. Bean, Ph.D. at Cultural Systems Research Inc., dated April 27, 2000.MVPC erroneously referred to the Native American Heritage Commission letter dated April 4, 2000 which had already been submitted.

Attached, as CULT- 39B, is the letter from Lowell J. Bean dated April 27, 2000, where in Dr. Bean directs MVPC to contact the chairman of the San Manuel Reservation. MVPC had already sent an inquiry letter on April 21, 2000, to Henry Duro, Chairman of the San Manuel Band of Indians. Dr. Bean was responding for Mrs. Saubel, who had been contacted pursuant to the recommendation of the Native American Heritage Commission.

MVPC will continue to submit to the California Energy Commission any responses received.

ATTACHMENT

CULT-39B

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Cultural Resources**

ORIGINAL REQUEST:

40. In a table please:

a. list each site and isolate identified within _ mile of the proposed project and proposed project linears;

b. briefly describe each site and indicate whether the site is historic or prehistoric;

c. indicate whether each site or isolate lies within or adjacent to the Area of Potential Effect (APE);

d. note whether each site has been determined eligible to the National Register of Historic Places (NRHP) or California Register of Historic Resources (CRHR). If it has not, indicate whether it has been proposed for a determination of eligibility; and

e. specify whether the cultural resource site is near the project site or identify the linear that is nearest the cultural resource site.

If information on the requested table may reveal the location of a site, please file the data response under confidential cover.

SUPPLEMENTAL RESPONSE:

At the workshop on July 26, 2000, the data needs of commission staff were addressed. It also became clear that alternative gas route 2, following historic route 66 on Foothill Boulevard, should be removed from consideration if not needed. MVPC has evalaluated the need for alternative route 2 and has determined that it can be removed from consideration. Thus, MVPC would like alternative gas route 2, along Foothill Boulevard to be removed from further analysis.

As requested at the July 26th workshop, Table CULT-40A was modified to clarify the locations of cultural resources within _ mile of the project site and linears. Resources within the APE remain unchanged. The column heading titled Area of Project Impact was retitled to Adjacent or Near APE to indicate those resources that are not within the APE, but are located adjacent or near the roadways along the natural gas pipeline routes. The attached Table CULT-40B provides a summary of the 13 resources determined to be within or adjacent/near the APE.

Please note that the information regarding alternative 2 was left in these figures even though it is no longer relevant. This was done only to make it easier to compare previous data submittals to the new ones.

ATTACHMENT
CULT-40A

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
GUASTI QUADRNAGLE							
SBR-7095H	abandoned irrigation system (standpipe)	N	N	N	N	N	N
P1084-1H	historic foundations, possibly late 1800s	N	N	N	N	N	N
P1084-23H	Campanella residence, ca. 1920s (remnants)	N	N	N	N	N	N
SBR-CPHIH	scatter of household trash	N	N	N	N	N	N
P1084-27H	area of multiple historic structures	N	Y	N	N	N	N
P1084-68H	Brandanos/Sundown Hotel	N	N	N	N	N	N
P1084-69H	Heberle Motel & Apartments	N	N	N	N	N	N
P1084-57H	Guidera/Cucamonga Winery	N	N	N	N	N	N
SBR-7199H	former residential/commercial property	N	N	N	N	N	N
SBR-7099H	remnant sewer line	N	N	Y	Y	N	N
SBR-6847H	Atchison, Topeka and Santa Fe RR	Y	Y	N	N	N	N
SBR-2910H/NRHP-E-OHP-3926*	National Old Trails/Route 66	Y	N	Y	N	N	N
FONTANA QUADRANGLE							
PSBR-50H	area of historic structures	N	Y	N	N	N	N
PSBR-8040H	possible remains of privy	N	N	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1073-44H	wood frame single family dwelling	N	N	N	N	N	N
P1073-45H	Anglo Colonial style single family dwelling	N	N	N	N	N	N
P1073-46H	single family residence	N	N	N	N	N	N
P1073-47H	Redwing Motel Complex, 1944	N	N	N	N	N	N
P1073-10H	historic property	N	N	N	N	N	N
P1073-31H	historic property	N	N	N	N	N	N
P1073-42H	Bono s Restaurant, ca, 1938	N	N	N	N	N	N
CPHI-2335-1	historic structure	N	N	Y	N	N	N
P1073-3H	American Legion/Boy Scout Building	N	N	N	N	N	N
P1073-33H	Slovene Hall	N	N	N	N	N	N
CPHI-96/P1073-16H	Fontana Woman s club	N	N	N	N	N	N
P1073-19H	Pacific Electric Depot	N	N	N	N	N	N
P1073-20H	Fontana Union Water Company	N	N	N	N	N	N
P1073-21H	Conklin Building	N	N	N	N	N	N
P1073-22H	Kreis Building	N	N	N	N	N	N
CPHI-101	Sinclair Commercial block	N	N	N	N	N	N
P1073-23H	Chomal Block	N	N	N	N	N	N
P1073-24H/CPHI-101	Sinclair Block	N	N	N	N	N	N
CPHI-97/P1073-15H	Fontana Community Church	N	N	N	N	N	N
		N	N				

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1073-1H	Saint Joseph s Church			N	N	N	N
P1073-2H	Fontana Mercantile	N	N	N	N	N	N
P1073-25H	Commercial buildings - west side	N	N	N	N	N	N
P1073-26H	Commercial buildings - east side	N	N	N	N	N	N
P1073-32H	Fontana Farms #1/CPHI-93/NRHP-L-82-982	N	N	N	N	N	N
P1073-11H	Adobe residence	N	N	N	N	N	N
P1073-12H	Hasbrouch residence	N	N	N	N	N	N
P1073-13H	Micallef residence	N	N	N	N	N	N
P1073-14H	Gazvoda residence	N	N	N	N	N	N
P1073-17H	Boyle residence	N	N	N	N	N	N
P1073-18H	MacGregor residence	N	N	N	N	N	N
P1073-37H	Junior High School	N	N	N	N	N	N
P1073-43H	orange shaped orange juice stand	N	N	N	N	N	N
P1073-29H	Fontana Historical Society Office	N	N	N	N	N	N
P1073-30H	Fontana Fire Department	N	N	N	N	N	N
P1073-1H	St. Joseph s Church	N	N	N	N	N	N
P1073-41H	wood frame two story residence	N	N	N	N	N	N
P1073-27H	Fontana Farms Garage	N	N	N	N	N	N
P1073-36H	Evergreen Lodge & cabins	N	N	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1073-39H/CPHI-94	US Experimental Rabbit Station	N	N	N	N	N	N
P1073-40H	Fontana Farms Administration Building	N	N	N	N	N	N
P1073-3H	American Legion Hall/Boy Scout Lodge	N	N	N	N	N	N
CPHI-99H	Miller Park	N	N	N	N	N	N
P1073-28H	Fontana Theater	N	N	N	N	N	N
P1073-34H	Fontana Farms Camp #4	N	N	N	N	N	N
P1073-38H	Fontana Farms Tract Office, County Library	N	N	N	N	N	N
SAN BERNARDINO SOUTH QUADRANGLE							
P1074-61H	old road remnant	Y	Y	Y	Y	N	N
P1074-88H	ditch	Y	Y	Y	Y	N	N
CPHI-53H	railroad	N	N	N	N	N	N
P1074-119H	ditch	N	N	N	N	N	N
IA-12	isolated prehistoric find	N	N	N	N	N	N
CPHI-7	National Orange Show	N	Y	N	N	N	N
CPHI-63	Mormon flour mill	N	Y	N	N	N	N
P1074-25H	Rialto Adobe	N	N	N	N	N	N
P1074-36H	historic structure	N	N	N	N	N	N
P1074-74H	historic area	N	N	N	N	N	N
P1074-53H	historic property	N	N	N	N	N	N
P1074-49H	historic structure	N	N	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1074-128H	historic property	N	N	N	N	N	N
P1074-64H	Moffatt House	N	N	N	N	N	N
P1074-18H	First Christian Church	N	N	N	N	N	N
P1074-19H	Rialto Elementary School	N	N	N	N	N	N
P1074-17H	First Methodist Church	N	N	N	N	N	N
P1074-62H	Humphrey House	N	N	N	N	N	N
P1074-63H	Crowder Building	N	N	N	N	N	N
SBR-6865H	cement structure, possibly related to sewer	N	N	N	N	N	N
P1074-16H	First Congregational Church	N	N	N	N	N	N
P1074-23H	Semi Tropic Land and Water Co.	N	N	N	N	N	N
P1074-26H	P. A. Raynor home, 1970s	N	N	N	N	N	N
P1074-20H	Rialto Hotel, 1888	N	N	N	N	N	N
P1074-65H	Martin Residence	N	N	N	N	N	N
P1074-24H	Lytle Creek Water and Improvement Co.	N	N	N	N	N	N
P1074-195H	Wigwam Motel	N	N	N	N	N	N
PSBR-26H	Water transportation	Y	Y	Y	Y	N	N
SBR-7168H	Gage Canal	Y	Y	Y	Y	N	N
PSBR-85H	Water transportation	Y	Y	Y	Y	N	N
SBR-6565H	historic structure	N	N	N	N	N	N
SBR-6564H	historic structures	N	N	Y	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1074-119H	Raynor Springs Ditch - 1852	N	N	Y	N	N	N
SBR-4129H/CPHI-88	Home of Neighborly Service	N	N	N	N	N	N
P1074-47H	commercial district	N	N	N	N	N	N
P1074-28H	Water transportation	Y	Y	N	N	N	N
P1074-45H	Santa Fe Roundhouse	N	N	N	N	N	N
P1074-59H	cottage	N	N	N	N	N	N
P1074-54H to 57H	architectural points of interest	N	N	N	N	N	N
P1074-121H	Santa Fe Viaduct	N	N	N	N	N	N
P1074-60H	apartments	N	N	N	N	N	N
P1074-21H	Santa Fe Depot, 1888	N	N	N	N	N	N
P1074-197H	Ingram House	N	N	N	N	N	N
P1074-160-184H	structures between 6th & 7th and F & G	N	N	N	N	N	N
P1074185H-194H	structures	N	N	N	N	N	N
P1074-58H	residences on the 800 block of 7th Street	N	N	N	N	N	N
P1074-51H	Arrowhead Baptist Church	N	N	N	N	N	N
P1074-41H/CPHI-106	St. Bernardine s	N	N	N	N	N	N
P1074-40H	Women s Club Building	N	N	N	N	N	N
CPHI-67	point of interest	N	N	N	N	N	N
SBR-7139	Marigold Farms	N	Y	N	N	N	N
SBR-6100H	Railroad spur	N	Y	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
SBR-8070H	California Hotel, ca. 1927	N	N	N	N	N	N
CPHI-60H	Fred T. Perris House Site	N	N	N	N	N	N
CPHI-103	San Bernardino California Theatre	N	N	N	N	N	N
P1074-43H	Woolworth Building	N	N	N	N	N	N
P1074-44H	Harris Building	N	N	N	N	N	N
SBR-4288H/CPHI-90	Andreson Building	N	N	N	N	N	N
P1074-37H	Eagle s Hall	N	N	N	N	N	N
P1074-46H	Pioneer Title Insurance Company	N	N	N	N	N	N
CPHI-15	point of interest	N	N	N	N	N	N
CPHI-62	Mormon Schools Site	N	N	N	N	N	N
CPHI-44	point of interest	N	N	N	N	N	N
CPHI-5	Atwood Adobe	N	N	N	N	N	N
P1074-128H	historic property	N	N	N	N	N	N
P1074-14H/CPHI-112	Cox-Bradley Adobe	N	N	N	N	N	N
SBR-8062H	historic property	N	N	N	N	N	N
SBR-8061H	historic property	N	N	N	N	N	N
CPHI-24	point of interest	N	N	N	N	N	N
SBR-8071H/NRHP-L-85-136	historic structure	N	N	N	N	N	N
CPHI-102	Heritage House	N	N	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1074-52H	Victorian House, 439 West 8th	N	N	N	N	N	N
SBR-2794	Old Victory Village site/mortars & metates	N	N	N	N	N	N
PSBR-4H	Sawpit Canyon Road	N	N	Y	Y	N	N
SBR-8695H	privy deposits/refuse dump, excavated 1995	N	N	N	N	N	N
SBR-7816H to 7827H	historic urban residential properties	N	N	N	N	N	N
P1074-93H	Daley Ditch	N	N	Y	Y	N	N
P1074-92H	St. Bernard/Davis Mill Ditch	Y	Y	Y	Y	N	N
P1074-103H	Mill	N	Y	N	N	N	N
SBR-7138H	abandoned building foundations	N	N	N	N	N	N
SBR-5554H	Martin Adobe structure1856/1857	N	N	N	N	N	N
P1074-22H	Packing House Row	N	N	N	N	N	N
P1074-122H	Inland Lake	N	N	N	N	N	N
SBR-6796H	unmarked historic cemetery	N	N	N	N	N	N
PSBR-43H	historic property	N	N	N	N	N	N
SBR-4130H	Eternity Jewish Cemetery	N	N	N	N	N	N
SBR-7059H	relatively modern trash pits	N	N	N	N	N	N
P1074-39H	Hunt House	N	N	N	N	N	N
P1074-42H	Site of Mormon Stockade	N	N	N	N	N	N
P1074-15H	Allen Iron Works	N	N	N	N	N	N

Table CULT-40A
Sites and Isolates Identified Within _-Mile of the Proposed Project and Proposed Project Linears

Resource No.	Description	Within APE	Adjacent or Near APE				Pavement
			Preferred	Alt 1	Alt 2	Staging Area	
P1074-10H	Mormon Council House	N	N	N	N	N	N
P1074-13H/CPHI-100	Sturges House	N	N	N	N	N	N
P1074-12H	Opera House Site	N	N	N	N	N	N
P1074-8H	Old Courtroom site	N	N	N	N	N	N
P1074-39H	Kite Route Station building	N	N	N	N	N	N
P1074-196H	Valley Auto Supply	N	N	N	N	N	N
SBR-7841H	historic foundation remnants	N	N	N	N	N	N
SBR-4191H	historic structure	N	N	N	N	N	N
SBR-7975H	historic debris scatter in vacant lot	N	N	N	N	N	N
SBR-7842H	remains of Platt Building	N	N	N	N	N	N
P1074-11H	Pavillion Site	N	N	N	N	N	N
P1074-9H	Jefferson Hunt House Site	N	N	N	N	N	N
P1063-68H	Structures (part of SBR-7139H)	N	N	N	N	N	N

*The National Old Trails (Highway 66) is the only site/isolate listed as a Prehistoric site, all others are listed as Historic. National Old Trail is also listed as the only site eligible for National Register of Historic Places (NRHP) and California Register of Historic Resources (CRHR).
Key: Y = Yes; N = No

ATTACHMENT
CULT-40B

Table CULT-40B
Potential Impacts to Known and Pending Cultural Resources.

Resource No.	Location[a]/Description	ADI/APE[b]	Significance
P1074-61H	Pref, Alt 1, Alt 2; Road	Unknown[c]	Potentially Significant[d]
P1074-88H	Pref, Alt 1, Alt 2; Vivienda Water Company	Unknown	Potentially Significant
SBR-2910/NRHP-E-OHP-3296	Alt 1; National Old Trails (Route 66)	Yes	Significant
SBR-7099H	Alt 1; Sewer	Unknown	Not significant
P1074-28H	Pref; Water transportation	Unknown	Potentially Significant
PSBR-26H	Pref, Alt 1, Alt 2; North Fork Ditch	Unknown	Potentially Significant
SBR-7168H	Pref, Alt 1, Alt 2; Gage Canal	Yes	Potentially Significant
PSBR-85H	Pref, Alt 1, Alt 2; Water transportation	Unknown	Potentially Significant
SBR-6847H	Pref; Alt 1, Alt 2; AT&SF Railroad grade	Yes	Potentially Significant
P1074-119H	Alt 1; Raynor Springs Ditch	Unknown	Potentially Significant
P1074-92H	Pref, Alt 1, Alt 2; St. Bernard/Davis Mill Ditch	Unknown	Potentially Significant
P1074-93H	Alt 1; Daley Ditch	Unknown	Potentially Significant
PSBR-4H	Alt 1, Alt 2; Sawpit Canyon Road	Unknown	Potentially Significant

[a] Pref = Preferred Route; Alt 1 = Alternate 1 Route; Alt 2 = Alternate 2 Route.
[b] ADI: Area of Direct Impact/APE: Area of Potential Effect is there evidence of the resource in the ADI/APE?
[c] Unknown: Based on existing information and field investigations, the resource is not identifiable on the surface, the location of the resource is unclear, or surface features are not definitive.
[d] Potentially Significant = Resources which have not been determined to be significant by appropriate authorities.

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Technical Area	**Cultural Resources**

ORIGINAL REQUEST:

41. Please provide a discussion of the natural gas line which includes the diameter of the line and the width and depth of the trench in which it will be buried. Please also address additional procedures, if any, if the ground disturbance related to trenching for the natural gas line extends outside the 50-foot wide surveyed APE.

SUPPLEMENTAL RESPONSE:

The gas pipeline will be constructed as near to the surface as possible. Only when existing structures, such as underground storm drains, aqueducts, etc obstruct the pipeline path will the pipeline trench be dug deeper than about 6 feet. It is highly unlikely, but theoretically possible, that a short portion of the pipe might have to be laid 25-30 feet deep. Even 20 feet is not highly probable. Should any large obstruction require a drop in trench depth, the length of the depth will be minimized, and would likely not reach more than 100 feet.

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Technical Area	**Cultural Resources**

ORIGINAL REQUEST:

45. Please provide a discussion of the applications of the project that would trigger the need to obtain a Section 404 permit. Also address the process necessary to obtain the permit and provide the name and phone number of a contact or contacts at the appropriate agency or agencies involved with issuing this permit. Please also address whether an archaeological use permit will need to be obtained.

SUPPLEMENTAL RESPONSE:

MVPC has determined that the Santa Ana river will be bored under using directional boring. This will avoid Army Corps of Engineer jurisdiction and thus ensure that the project will not be subject to an Army Corps of Engineers Section 404 permit.

MOUNTAINVIEW POWER PLANT PROJECT
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Technical Area **Land Use**

ORIGINAL REQUEST:

53. Please provide additional information regard the status of the 38-acre expansion area and the application for annexation.

SUPPLEMENTAL RESPONSE:

This subsequent information is pursuant to staff s request for further explanation concerning the Annexation of the 38+ acres that MVPC is acquiring from SCE and the requirements imposed by the City of Redlands as they relate to set back standards, property lines, etc.

As discussed at the wokshop, MVPC s original response to data request 56, MVPC provided the development agreement between the City of Redlands and MVPC. (Attachment LAN-56A). Exhibit A of the that Development delineates the legal description of the property. Exhibit C of that Agreement, detailed the Existing Land Use Regulations as amended May 2, 2000. Below is a description and presentation of existing City of Redlands development requirements. Many of these have superceding elements within the development agreement.

The East Valley Corridor Specific Plan [EVCSP], Division 3, Chapter12, section EC3.0101 provides land use regulations for the area included in the East Valley Corridor. Pursuant to Section EV3.0110, the Land Use District established to carry out the provisions of the EVCSP in which the MVPP falls is the Public Institutional District. Section EV3.0120 defines the applicable rules, which clarifies the boundaries of any district shown on the Land Use District Maps. The following rules will apply to the MVPC as this project is in the jurisdiction of the EVCSP.

Section EV3.0135

General Land Use Provisions

(a) Except as otherwise provided in the Specific Plan and applicable zoning codes, buildings or structures shall be erected, reconstructed, structurally altered, enlarged, moved or maintained, and buildings, structures or land shall be used or designed to be used only for uses permitted in the zone in which such building, structure or land is located, and then only after

applying for and securing all permits and licenses required by all laws and ordinances.

(b) Where the terms "similar," "typical," or "including but not limited to" are used in the context of "similar" or "typical" uses or products, it shall be deemed to mean other products or uses which, in the judgment of the Director of Community Development as evidenced by a written decision, are similar to and not more objectionable to the general welfare than the products or uses listed in the same section. The Director of Community Development shall be specifically empowered to refer to the Planning Commission those determinations of similar uses which, in his or her opinion, warrant examination by that body. In all cases, the item(s) shall be examined pursuant to the process established in sections (c) and (d) below.

(c) Prior to taking an action to find a use similar to and not more objectionable to the general welfare than the uses listed within the text of a zone district of this Division, the Director of Community Development or the Planning Commission shall find all of the following:

(1) That the use is not first listed as a permitted use in a less restrictive zone district.

(2) That the proposed use is compatible with the intent of the land use district and is applicable throughout the Specific Plan area in that land use district.

(3) That the proposed use is consistent with the Specific Plan.

(4) That the use is capable of meeting the standards, requirements and intent of the land use district.

(5) That the use will not be more inappropriate or objectionable to the general welfare than the uses listed within the land use district.

(d) The Director of Community Development shall notify the Planning Commission in writing of all approved determinations at the next available Commission meeting. The Director’s decisions shall be presented as information items only, but may be appealed by a majority of the Commission members present at the meeting and acted upon at that

time.

(e) The Director of Community Development shall not be required to notify the Planning Commission of any requested determinations which he or she has denied. However, the applicant requesting the determination may appeal the Director's denial within ten (10) calendar days of the official notice of denial.

SECTION EV3.1220

DEVELOPMENT STANDARDS

(a) All lots shall have adequate width, depth and area to accommodate all required parking, setbacks, landscaping, loading, trash enclosures and access requirements.

(b) Building or structure height shall not exceed FAA height limits as determined in accordance with Part 77 of the FAA regulations. Also refer to Floor Area Ratio - Section EV4.1240 (a).

(c) Minimum building setbacks shall be as follows:

(1) Front yard 25 feet
Street side yard 25 feet
Side yards 10 feet
Rear yard 20 feet

(2) Where front or side street is designated as a Special Landscaped Street in Section EV4.0115 (a), see Section EV4.0115 for setback and landscaping requirements.

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Technical Area	**Soil and Water Resources**

ORIGINAL REQUEST:

64. Please provide a draft erosion control and stormwater management plan that identifies all measures that will be implemented during construction and operation of the proposed power plant. The draft erosion control plan shall identify all permanent and temporary measures in written form and depicted on a construction drawing(s) of appropriate scale. The plan should include information on the erosion control and stormwater management practices at the existing power plant (the former San Bernardino Generating Station) and specify the changes necessary to existing practices to accommodate the new facility. The purpose of the draft plan is to minimize the area disturbed, to protect disturbed areas, to retain sediment on-site and to minimize off-site effects of stormwater runoff. The elements of the plan shall include any revegetation efforts and best management measures to control stormwater runoff during construction and operation. In addition, any measures necessary to address Nationwide Permits or Streambed Alteration Agreements, as required, should be identified. Revegetation efforts should address both erosion control and habitat restoration. The plan should specify the type of seed and fertilizer, seeding and fertilizer rate, application method, the type and size of any container plants to be used and the criteria for judging revegetation success. The plan should also identify maintenance and monitoring efforts for all erosion, stormwater runoff control and revegetation measures including measures to rectify unsuccessful revegetation efforts.

SUPPLEMENTAL RESPONSE:

At the workshop on July 26, 2000, staff identified additional information needed regarding data request 64. Specifically information was needed regarding:

1. NPDES requirements for discharges offsite
2. More detail on erosion control methods for both construction and operation.
3. More detail on stormwater management for both construction and operation.

A particular concern was how a 24 hour storm would be handled.

MOUNTAINVIEW POWER PLANT PROJECT
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Technical Area	**Soil and Water Resources**

NPDES

MVPC will not require a new or modified NPDES permit. This is because MVPC will be eliminating its discharge rather than modifying it. MVPP will be collecting its plant discharges and inserting them into the cooling tower, as the current facility operates. For that reason, even at this time, MVPC does not require an NPDES permit, even though it has one. The new project will actually reduce the net amount of stormwater that runs off the property, because additional surface, currently hard packed and whose sheet flows exit the property, will come under the collection umbrella of the new facility and thus be routed into the cooling towers for use.

Instead of obtaining a new NPDES permit or modifying the existing one, MVPC will recind its existing NPDES permit and apply for stormwater to be discharged under the Statewide general stormwater permit. MVPC will file a Notice of Intent (NOI) to the Santa Ana Regional Water Quality Control Board (SARWQCB) for stormwater to be discharged. SARWQCB will then complete the application for MVPP. SARWQCB informed MVPC that the transition will be fairly easy and routine and does not require initiating until close to the time it will be needed. The contact at the SAQWQCP is Gary Stuart, (909) 782-4379, Santa Ana RWQCB Permitting Division.

Erosion control and stormwater management

MVPC is completing its evaluation and analysis of erosion control and stormwater management handling issues. A particular focus is on how 24 hour storms will be handled consistent with MVPC s intentions to ensure all stormwater in the footprint area of the facility is collected and handled. MVPC will submit a revised Storm Water Pollution Prevention Plan Draft with detailed information regarding typical erosion control measures, sheetflow information, and specific methods for handling 24 hour storms. The information will address both construction and operation. It is expected that this will be submitted by August 10, 2000.

MOUNTAINVIEW POWER PLANT PROJECT
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Technical Area	**Traffic and Transportation**

ORIGINAL REQUEST:

90. A table showing the current LOS, capacity and peak hour traffic.

SUPPLEMENTAL RESPONSE: A table depicting the current AM and PM peak hour traffic volumes, number of lanes, capacity and existing level of service (LOS) for 18 signalized intersections impacted either by pipeline construction or delivery of construction personnel and materials has been complete.

Table 1, ICU Summary in Attachment TT-90A, summarizes an AM/PM peak hour capacity analysis that was performed at 18 signalized intersections confirmed with the CEC as requiring counts. These intersections were chosen because they were determined to have the potential to experience an increase in traffic due to construction of the Mountainview Power Plant and its associated pipeline. Within Table 1, the column titled EXISTING — AM and PM , indicates the Intersection Capacity Utilization (ICU), or percentage of intersection capacity currently being used by existing traffic in the corresponding morning and afternoon peak hour. The traffic counts were obtained during the month of July 2000. A review of the existing conditions reveals that the 18 signalized intersections are operating below capacity, with the highest utilization of available capacity at 83 percent, or an LOS D (i.e., Etiwanda at Arrow Route during the PM peak hour). However, for the most part, these 18 locations are operating below capacity, with all but one operating at LOS C or better and most at LOS A or B

ATTACHMENT

TT-90A
(Not in Electronic/ CD-Rom Version)

Table 1
ICU Summary

Location	Existing AM	Existing PM	Existing + Project AM	Existing + Project PM	Change AM	Change PM
1. Etiwanda & Arrow Route	.42	.83	.44	.83	.02	NC
2. Cherry & Arrow Route	.54	.75	.54	.75	NC	NC
3. Citrus & Merrill	.33	.45	.33	.45	NC	NC
4. Sierra & Merrill	.36	.65	.37	.65	.01	NC
5. Cedar & Merrrill	.41	.58	.41	.60	NC	.02
6. Riverside/Bloomington & Merrill	.52	.61	.53	.61	.01	NC
7. Mount Vernon & Mill	.43	.53	.45	.53	.02	NC
8. I St and Mill	.52	.45	.52	.45	NC	NC
9. I-215 NB Ramp/H St & Mill	.33	.55	.33	.59	NC	.04
10. E St/Inland Ctr & Mill	.25	.39	.30	.43	.05	.04
11. Waterman & Mill	.34	.45	.38	.47	.04	.02
12..Tippecanoe & Mill	.37	.39	.37	.48	NC	.09
13. Tippecanoe & Central/Palm Med	.29	.35	.33	.38	.04	.03
14. Tippecanoe & San Bernardino	.43	.53	.47	.60	.04	.07
15. Tippecanoe & I-10 WB on/off	.42	.65	.42	.66	NC	.01
16. Tippecanoe & I-10 EB on/off	.45	.77	.47	.77	.02	NC
17. Mountain View & I-10 WB on/off	.46	.46	.50	.56	.04	.10
18. Mountain View & I-10 EB on/off	.50	.47	.56	.48	.06	.01

Level of service ranges:
.00-.60 A
.61-.70 B
.71-.80 C
.81-.90 D
.91-1.0 E
Above 1.0 F

NC = indicates no change to ICU value with the additoin of proposed project

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Technical Area	**Traffic and Transportation**

ORIGINAL REQUEST:

91. A discussion of the impact that construction and/or operation will have on the impacted intersections.

SUPPLEMENTAL RESPONSE: The existing traffic data, AM/PM peak hour volumes and volume-to-capacity (V/C) ratios which indicate the current LOS are used as the basis for the project traffic impact analysis (Response to Data Request 90). To the existing intersection volumes a worst case scenario represented by an increase in traffic from 668 daily employees (568 for plant construction and 100 for pipeline construction) and 30 truck deliveries is added to determine the project impact created by the project. The results of adding the project- generated traffic to the existing conditions at the 18 most critical signalized intersections is illustrated in Table 1 in Data Response 90 under the heading EXISTING + PROJECT. The net change or increase in the ICU is shown in the column titled CHANGE. A review of Table 1 reveals that in no case did the increase in project traffic create an unacceptable level of service (defined as LOS D with ICU of 0.91 or higher). In fact, the highest ICU is 0.83 (at Etiwanda and Arrow Route) and the project did not add enough traffic to create any perceptible change at this location. In summary, the project impact varied from creating no change (NC) up to a maximum increase of 0.06 in the existing ICU. However, in no case did the project either create or worsen an otherwise unacceptable LOS.

Background material supporting the results presented in Table 1 (Attachment TT-90A) is presented in Figures 1 thru 7 in Attachment TT-91A. The actual ICU calculation sheets are also included in Atttachment TT-91A. The project trip generation is based on 668 daily employees with a typical vehicle occupancy of 1.2 persons per vehicle and arrival and departure of 30 trucks per day with a passenger car equivalency of 2.5 trips per truckload. The overall areawide distribution of employee trips is illustrated in Figure 3 with the precise AM and PM peak hour employee trips shown in Figures 4 and 5.

Natural gas pipeline construction will proceed through the intersections along the route using a minimum impact. Usually the large intersections are handled as special crossings. They are excavated by a small crew and prepared ahead of the main pipe installation. Traffic is controlled as the intersection is opened up one lane at a time. Usually when the main pipe crew gets to the

intersection, they can cross with the pipe in one day. Then the special crossing crew will perform the backfill and paving as the larger pipe crew moves on. Traffic is maintained by use of street plates.

The overall conclusion of this intersection capacity analysis is that construction traffic will have a small but not significant impact on existing AM and PM peak hour traffic conditions and that no additional mitigation is deemed necessary.

ATTACHMENT

TT-91A

MOUNTAINVIEW POWER PLANT PROJECT
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(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

99. If the isolation valves are to be above ground, please describe the valves location, size, and visual characteristics.

SUPPLEMENTAL RESPONSE:

As requested at the workshop on July 26th, 2000, MVPC will be able to paint above ground portions of the pipeline as appropriate to minimize impact of the pipeline. Likewise, MVPC is willing to use a variety of fence materials and colors for any above ground valves in order to maximize the aesthetic values of the pipeline.

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Technical Area	**Visual Resources**

ORIGINAL REQUEST:

103. Please provide a photograph of the bridge location where the pipeline would be hung over the railroad tracks. Please provide a written description of the position of the pipeline on the bridge.

SUPPLEMENTAL RESPONSE:

Figure VIS-103a is a view of the railroad crossing and concrete wash looking eastward. The overpass is Mill Street.

Figure VIS-103a
View of Mill Street railroad over-crossing looking Eastward from the North Side

MOUNTAINVIEW POWER PLANT PROJECT
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Technical Area	**Visual Resources**

ORIGINAL REQUEST:

104. Please provide a photograph of the pipeline crossing of the Santa Ana River. If the crossing would be visible from the planned Santa Ana River Trail (SART), the photograph should be taken from the SART. Please provide a written description of the position of the pipeline on the bridge.

SUPPLEMENTAL RESPONSE:

Figure VIS-104a and 104b are the same picture. Therefore, MVPC is submitting the attached photograph to replace the original Figure VIS-104b. Further, MVPC is submitting 3 other photographs of the bridge. Also, MVPC is submitting a map showing locations and directions of all photos taken for visual resources purposes. (VIS-104f). This map, Figure VIS-105f is being submitted separately with 5 copies to the CEC.

VIS-104a

Figure VIS-104a shows the Santa Ana Riverbed looking up at the Tippecanoe overpass from the Northwest end.

VIS-104b

Figure VIS-104b shows the Santa Ana Riverbed looking up at the Tippecanoe overpass from the Southeast end.

VIS-104c

Figure VIS-104c shows the Santa Ana Riverbed looking up at the Tippecanoe overpass from the Southwest end.

VIS-104d

Figure VIS-104d shows the Santa Ana Riverbed looking up at the Tippecanoe overpass from the Northeast end.

VIS-104e

Figure VIS-104e shows the Santa Ana Riverbed looking up at the Tippecanoe overpass from the Northwest end, similar to the view provided in VIS-104a.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

105. Please provide a photograph of the golf cart/foot bridge crossing. Please also provide a written description of the position of the pipeline on the bridge and the pipeline s visibility from the banks of the Twin Creek Channel and other locations on the golf course.

SUPPLEMENTAL RESPONSE:

VIS-105a depicted the golf bridge. A map, submitted as VIS-104f, also indicates the location of this photo.

Figure VIS-105a

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

109. Please define foreground, middleground, and background distance zones by mileage range as used in the AFC.

SUPPLEMENTAL RESPONSE:

The terms foreground , middleground and background as used in the AFC are in reference to the field of vision as shown in the respective photographs. The distance represented by these terms varied with each photo.

KOP #1
Foreground — up to 1/2 mile
Middleground — 1/2 mile to 1 mile
Background — greater than 1 mile

KOP #2
Foreground — up to 100 yards
Middleground — 100 yards to 1/2 mile
Background — greater than 1/2 mile

KOP #3
Foreground — up to _ mile
Middleground — _ to 1 mile
Background — greater than 1 mile

KOP #4
Foreground — up 50 yards
Middleground — 50 yards to 200 yards
Background — greater than 200 yards

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

115. Please provide photographs that are representative of the landscape along the gas pipeline route, including staging areas.

SUPPLEMENTAL RESPONSE:

Staff requested descriptions of the locations and background in the photographs submitted for data request 115. The photos are resubmitted with the requested captions.

VIS-115a
View of the Southeast corner of Eitwanda Avenue and Arrow Route. Gas line sign in center of picture indicates location of gas line. Actual connection point for preferred gas route is actually East of this location. Typical scenery consists of open areas, light commercial-industrial, and the Etiwanda Wash. The Etiwanda Wash is dry with various types of shrubbery in the immediate vicinity. The wash is littered with various debris such as a couch and miscellaneous garbage. Also located in the middle of the wash are transmission towers.

VIS-115b
View of the gas line route looking East along Mill street from the Intersection of Mill and I Street. The concrete span straddling Mill Street is I-215.
The area is mostly commercial and light industrial with some empty buildings and lots.

VIS-115c
View of the gas line route looking East from the intersection of Mill Street and H Street.
The area is mostly commercial with some light industrial facilities.

VIS-115d
View of gas line route on Arrow Route, looking East, West of the intersection of Pecan Avenue and Arrow Route.
The region is rural with scattered residential buildings and some commercial.

VIS-115e
View of Northeastern portion of bridge spanning the Santa Ana river on Tippecanoe Avenue.
The river is usually dry. The banks are modified reinforced often with old road debris such as concrete and blacktop materials. Most structures such as the bridge in the picture have graffiti on them. Some garbage, such as shopping carts, plastic and paper debris, and broken metal equipment is scattered throughout the river bed in this area.

VIS-115f
View of proposed gas line on Merrill Avenue, looking East from the intersection of Merrill Avenue and Beech Avenue
The region is a mixture of roadside commercial and residential.

VIS 115g
Arial view of the Eastern end of the proposed gas line showing the crossing of the Santa Ana River on Tippecanoe Avenue.
The area to the west (towards top right hand corner of photo) of the plant is commercial and residential. The region along Tippencanoe is commercial with many empty lots and abandoned buildings.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

120. Please provide a statement of impact significance for Key Observation Point 2.

SUPPLEMENTAL RESPONSE:

In the response to data request 120, the statement of impact significance was omitted. It is: Therefore, no significant visual impacts are expected from this view if the proposed structures are added to the existing power plant.

MOUNTAINVIEW POWER PLANT PROJECT
SUPPLEMENTAL RESPONSES
TO FIRST SET OF DATA REQUESTS
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

121. [pertained to plume visibility and modeling issues]

SUPPLEMENTAL RESPONSE:

At the workshop on July 26, 2000, a question arose regarding an attachment, Attachment VIS-121A, that was erroneously omitted from the original responses. MVPC indicated that it had docketed the missing VIS —121A. Because staff had not yet received it, MVPC committed to following up and verifying that staff has received the docketed VIS-121A. MVPC has done so and understands that staff has received VIS-121A.

Additionally, MVPC hereby submits the following supplemental response and Attachment VIS-121B, another analysis of visible plume modeling using the SACTI model.

Introduction

The cooling system for the proposed project will consist of four linear cooling towers, two 10-cell units for the new combined cycle units and two four-cell units for the existing steam turbine gas-fired plant. The ten-cell units consist of two parallel units with five fan cells each. The term linear is applied to these towers because the individual cooling tower cells are arranged along a straight-line axis that is oriented in a direction that maximizes heat transfer efficiency. The cooling towers are of a mechanical draft design, or in other words, the air movement within the towers is created through the use of fans.

A cooling tower dissipates heat through evaporational cooling of circulating water. A portion of the circulating water is converted to water vapor in the process, so the exhaust air from a cooling tower is essentially a saturated air-water vapor mixture at an elevated temperature relative to the ambient air. Under certain conditions this water vapor condenses rapidly to form a visible plume. After being released from the tower, this visible plume will normally rise to some distance above the ground due to its inherent buoyancy and momentum. A visible plume may extend some distance from the plant when atmospheric conditions discourage evaporation of condensed water vapor in the plume. Low temperatures, high relative humidities, and minimal turbulence in the ambient air all tend to favor the formation and persistence of visible cooling tower plumes. Since these factors are stronger during the winter months, as well as during the early morning and late evening hours, elevated visible plumes are more common during these times.

To obtain estimates of water vapor plume frequency and length from the cooling towers, a modeling tool called Seasonal/Annual Cooling Tower Impacts (SACTI) was used. Version 1.0 of the SACTI model was used to predict cooling tower impacts from the facility. The SACTI model user input consists of the following types of data: meteorological data; receptor grid; cooling tower design and operational data; and output formatting options.

Previously in the data responses submitted on July 14, 2000, a modeling approach developed by Sierra Research was used. This approach was based on meteorological data from Ontario airport. The plume frequency results of that analysis were similar to the results reported herein. The previous analysis reported that a visible plume could occur up to 273 hours per year, of which 138 hours were during the day. This SACTI analysis shows that a visible plume can be observed for up to 188 hours per year, all of which could occur during the day. In either case, this is a very small percentage (2%) of the time that a visible plume from the cooling tower might be observed.

SACTI Model Inputs

Meteorological Data

Meteorological data collected at Norton Air Force Base in 1991 and 1992 was used in the SACTI model. This data was obtained in the National Climatic Data Center DATSAV2 format and converted to CD-144 format. Meteorological data from Norton Air Force Base was used instead of meteorological data available from the SCAQMD because relative humidity data was included in this data set, in addition to wind speed and direction.

A uniform mixing height data of 1,000 meters was assumed. Since the plume height is much less than 1,000 meters, this is a conservative assumption that ensures that the maximum vertical extent of the visible plume is predicted.

Other meteorological data inputs to the model include the monthly average clearness index and monthly average incoming solar radiation (insolation). The clearness index and insolation data used are values for Riverside, the closest location to the site for which data is provided in Appendix B to the SACTI user s manual.

The SACTI model also requires the user to make judgements regarding wind directions that are input to the model. Each of the 16 principal wind directions (north, north-northeast, northeast, etc.) is modeled as one of three representative directions that are dependent on cooling tower layout and orientation. The first direction is the orientation of the centerline of the cooling tower with respect to north. The second is the direction perpendicular to the centerline, and the third is the direction mid-way between the first and second.

For example, for the 10 cell towers (Units 3 and 4), the orientation is 45^{o} from north, so the perpendicular direction is 135^{o} and the mid-way direction is 90^{o}. Then each of the principal wind directions is assigned one of these three categories based on its proximity. Using this method, complex cooling tower configurations can be handled more easily by the model. Representative wind directions for this analysis were chosen following the guidelines in Appendix C of the SACTI user s manual.

Initial modeling runs showed that the impacts of interest were insignificant beyond an 800-meter (approximately 0.5 miles) radius of the cooling towers. These impacts are based on the historical meteorological conditions of the site. Consequently, modeling runs summarized in this report focus exclusively on this area of maximum impacts.

Receptors

Three polar receptor grids were used for the modeling, two at the center of each of the two ten-cell cooling towers, and the one centered along the centerline between the two four-cell units. Receptors were aligned along radials corresponding to the 16 primary wind directions. Receptors were placed at 100-meter (328-foot) intervals. A value of 100 cm, the recommended value for suburbia, was used for surface roughness. This value has little impact on the model results.

Cooling Towers

Each of the two ten-cell towers (Units 3 and 4) was modeled individually because of their relatively large separation distance. The four-cell towers were modeled together as a combined eight-cell tower consisting of two parallel units separated by a distance of 115 feet from centerline to centerline. Table 6.6-6 of the AFC summarizes data for each of the ten cell and four cell cooling towers. Modeling was done with the cooling towers operating at full load.

The four cooling towers are generally aligned along a north-south axis, whereas the prevailing wind is from the west and west-southwest. The frequency of winds from the southwest to the northwest (excluding calm winds) is approximately 75 percent of the time. For these hours, the individual plumes from each operating cooling tower will tend to disperse downwind along parallel tracks, perpendicular to the alignment of the cooling towers. Therefore, it is expected that there will only be occasional merging of individual cooling tower plumes.

A local coordinate system was created for each of the three sets of cooling towers. The local coordinates of the center points of cooling tower fan vents for the cooling towers modeled are shown in Table 6.6-7 of the AFC.

Plumes

The horizontal growth of a vertical jet or plume can be approximated (Haugen 1976) as:

$$\check{}r/\check{}z = 0.16$$

where $\check{}r$ is the radial plume growth

$\check{}z$ is the change in plume height

Approximating 0.16 as the tangent of the vertical plume growth, this corresponds to a vertical growth angle of approximately 10°. This angle is a measure of how fast a vertical plume is growing in the radial direction. Using this equation and assuming a more conservative (large) growth angle of 15°,

the radial growth of an individual plume would be approximately 27 m at an elevation above the cooling tower of 100m.

The separation between the centers of the two closest cooling towers (Units 1 & 2 and Unit 3) is approximately 85 meters. The effective release radius of a cooling tower is equal to the radius of a circle having the same area as the sum of the release areas of each cell in a cooling tower. For Units 1 & 2 and Unit 3, the initial release radii, and hence the initial plume radii, are approximately 10 m and 18 m, respectively. Adding the two individual cooling tower radii to the growth of each plume at a height of 100 m yields a total plume width of 82 m (10 m + 18 m + 2 x 27 m). This conservative estimate of the combined plume width (82 m) is less than the separation of the centers (85 m) of the two nearest cooling towers (Units 1 & 2 and Unit 3). Therefore, under conservative estimates of plume growth, there is expected to be little interaction of individual cooling tower plumes. Consequently, it is reasonable to model each of the cooling towers as an individual unit.

Data Request Responses

Background

The CEC staff has asked for detailed information on cooling tower plumes that cannot be directly obtained from the SACTI model. In particular, maximum and average plume conditions cannot be computed with SACTI. To respond to the CEC data request, we have used the SACTI model to approximate plume impacts that are roughly comparable to the elements requested. These elements are discussed below.

The SACTI model does not directly simulate short-term impacts of cooling tower plumes. Rather, it computes plume conditions for a set of typical meteorological conditions. Seasonal and annual (the S and A in SACTI) estimates of plume impacts are computed by weighting the modeled plume impact for each episode modeled by the frequency of occurrence of that episode in the historical meteorological record. Therefore, mean values of plume parameters cannot be computed with SACTI. However, median values of plume parameters can be estimated from the frequency of occurrence information presented in the SACTI output. Likewise, the worst-case plume impact is not directly modeled but rather can be defined on a percentile basis. For the purposes of this analysis, therefore, the worst-case cooling tower plume is defined as the 99^{th} percentile plume (i.e., 99% of the cases have lower or smaller plumes) while the median plume is defined as the 50^{th} percentile plume.

The typical set of meteorological conditions input to SACTI is developed uniquely for each set of meteorological data input to the model. For each simulation, the input meteorological data are subdivided into 35 separate cases and the frequency of occurrence of each of the cases established. The boundaries between cases are not fixed but vary from run to run and are determined by the PREP preprocessor to SACTI. If certain meteorological conditions are removed from the input data (e.g., all hours with fog and haze or visibility less than or equal to 5 miles), the boundaries between each of the 35 episode cases will be redefined from those in the unabridged data set. Consequently, the modeled plume impacts will vary between the runs, producing some counterintuitive results.

For example, in performing simulations responding to the CEC staff request for daylight, unrestricted visibility impacts only, the number of hours with a visible plume increased slightly in the daylight-only case as compared to the case with the unabridged data set. This result, more hours of visible plume resulting merely from the elimination of nighttime hours in the analysis, is a direct result of the redefinition of episode cases for each run. Therefore, comparison of plume impacts between different simulations can be complicated by subtle changes in the typical episodes used for the different simulations.

Based on the assumption that the visible plume above the cooling tower casts a shadow during the day, the number of hours of shadowing as determined by SACTI determines the number of hours that the plume is visible. However, SACTI does not specify frequency or duration of occurrence, only total hours.

Reponses

a. If all the hours (2 year data set) of meteorological data are considered for the four-cell towers (Units 1 and 2), the median plume will be less than 20 meters high, 20 meters long, and 4 meters wide. The plume maximum will be 170 meters high, 460 meters long, and 40 meters wide. The predominant winds will be coming from the west and east directions for the median and maximum plumes, respectively.

   If all the hours of meteorological data are considered for the ten-cell towers (Units 3 and 4), the median plume will be less than 20 meters high, 10 meters long, and 6 meters wide. Plume maximums defined as the size cut off for the largest 1% of the plumes, will be 195 meters high, 450 meters long, and 35 meters wide. The predominant winds will be coming from the west and east directions for the median and maximum plumes, respectively.

For the daylight hours scenario for Units 1 and 2, the median plumes will be less than 30 meters high, 20 meters long, and 6 meters wide. The median plumes for Units 3 and 4 will be less than 30 meters high, 20 meters long, and 10 meters wide.

For the daylight hours scenario for Units 1 and 2, the maximum plumes will be 140 meters high, 220 meters long, and 28 meters wide. The maximum plumes will be 150 meters high, 400 meters long, and 42 meters wide for Units 3 and 4.

These dimensions are summarized in Table VIS-121b.

Table VIS-121b. Maximum and Median Plume Dimensions

Simulation	Units	Plume Type	Height (m)	Length (m)	Width (m)
All Hours	Units 1 & 2	Maximum	170	460	40
		Median	20	20	4
	Units 3 & 4	Maximum	195	450	35
		Median	20	10	6
Daytime Only	Units 1 & 2	Maximum	140	220	28
		Median	30	20	6
	Units 3 & 4	Maximum	150	400	42
		Median	30	20	10

b. Tables 1 to 8 and Tables 41 to 48 in Attachment VIS-121B summarize plume characteristics and total hours of occurrence for the all hours scenario and the daylight hours scenario, respectively.

For the all hours scenario, the median plume for Units 1 and 2 is expected to be visible for 135.4 hours per year, or 1.5% of the time, and the maximum plume is expected to be visible for 2.3 hours per year, or 0.03% of the time.

For the all hours scenario, the median plume for Units 3 and 4 is expected to be visible for 182.3 hours per year, or 2.1% of the time, and the maximum plume is expected to be visible for 3.2 hours per year, or 0.04% of the time.

For the daylight hours scenario for Units 1 and 2, the median plume is expected to be visible for 149.7 hours per year, or 3.4% of the daylight hours, and the maximum plume is expected to be visible for 11.0 hours per year, or 0.13% of the daylight hours.

For the daylight hours scenario for Units 3 and 4, the median plume is expected to be visible for 188.5 hours per year, or 4.3% of the daylight hours, and the maximum plume is expected to be visible for 4.2 hours per year, or 0.05% of the daylight hours. Note, as discussed in the background above, the SACTI model gave more hours of potential plume during the daylight only scenario than the all hours due to the models "redefining" of the episodes when certain meteorological conditions are removed.

These results are summarized below in Table VIS-121c.

Table VIS-121c. Frequency of Occurrence of Visible Plumes from the Cooling Towers

Simulation	Units	Plume Type	Frequency	
			Hours per Year	Percent of Hours
All Hours	Units 1 & 2	Maximum	2.3	0.03
		Median	135.4	1.5
	Units 3 & 4	Maximum	3.2	0.04
		Median	182.3	2.1
Daytime Only	Units 1 & 2	Maximum	11.0	0.13
		Median	149.7	3.4
	Units 3 & 4	Maximum	4.2	0.05
		Median	188.5	4.3

c. Fog was reported in 9.7% of the meteorological data used. Figure 1 in Attachment VIS-121B indicates that fog was most common in the mid-afternoon. Fog and haze are reported in 35.2% of the two-year data set. Figure 2 in Attachment VIS-121B demonstrates that fog and haze impede visibility most in the afternoon.

It should be noted that the period with the greatest frequency of restricted visibility is mid-afternoon, a period not typically noted for fog formation, particularly in an area as dry as the San Bernardino area. A possible explanation is that visibility restriction reported as fog was actually haze and some clouds. Therefore, Figures 1 and 2 should be interpreted as illustrating the diurnal variation of restrictions to visibility and not fog per se.

The assumption has been made that when visibility is less than 1 mile, that fog is present. Based on this assumption, the following two scenarios have eliminated the period when fog occurs. The plume characteristics and total hours of occurrence are shown in the Tables of Attachment VIS-121B as indicated.

- All hours with visibility greater than 1 mile (Tables 9 to 16); and
- Daylight hours with visibility greater than 1 mile (Tables 25 to 32).

When all the hours with visibility greater than 1 mile are considered, the median and maximum plume sizes and frequency of occurrence remain virtually unchanged from the scenario with all visibility ranges for Units 1, 2, 3, and 4.

When the daylight hours with visibility greater than 1 mile are considered, the median plume sizes and frequency of occurrence remain virtually unchanged for Units 1, 2, 3, and 4. The maximum plume height, length, and width for Units 1 and 2 become 140, 230, and 28 meters, respectively. The maximum plume height, length, and width for Units 3 and 4 become 205, 400, and 42 meters, respectively.

The number of occurrences with visibility less than 1 mile have been plotted against the hour of day as Figure 3 in Attachment VIS-121B. As shown, the majority of these instances occur in the afternoon with virtually no such instances at night or in the morning.

d. The following two additional scenarios were considered. The results of the two scenarios that eliminated periods when visibility is reduced to less than 1 mile are addressed in c above. The plume characteristics are shown in the Tables of Attachment VIS-121B as indicated.

- All hours with visibility greater than 5 miles (Tables 17 to 24); and
- Daylight hours with visibility greater than 5 miles (Tables 33 to 40).

The percentage of all hours with visibility greater than 5 miles is 82.9%. Daylight hours with visibility greater than 5 miles were 79.5% of daylight hours.

When all the hours with visibility greater than 5 miles are considered, the median plume height, length, and width for Units 1 and 2 will be 20, 20, and 4 meters, respectively. The maximum plume height, length, and width for Units 1 and 2 will be 195, 460, and 34 meters, respectively.

When all the hours with visibility greater than 5 miles are considered, the median plume height, length, and width for Units 3 and 4 will be 20, 20, and

7 meters, respectively. The maximum plume height, length, and width for Units 3 and 4 will be 195, 450, and 35 meters, respectively.

For the all hours scenario with visibility greater than 5 miles, the median plume is expected to be visible for 106.4 hours per year, or 1.2% of the time, and the maximum plume is expected to be visible for 2.0 hours per year, or 0.02% of the time for Units 1 and 2.

When the daylight hours with visibility greater than 5 miles are considered, the median plume height, length, and width for Units 1 and 2 will be 25, 10, and 6 meters, respectively. The maximum plume height, length, and width for Units 1 and 2 will be 160, 220, and 31 meters, respectively.

The median plume height, length, and width for Units 3 and 4 will be 25, 20, and 8 meters, respectively. The maximum plume height, length, and width for Units 3 and 4 will be 220, 410, and 43 meters, respectively.

For the daylight hours scenario with visibility greater than 5 miles, the median plume is expected to be visible for 151.4 hours per year, or 3.5% of the daylight hours, and the maximum plume is expected to be visible for 3.7 hours per year, or 0.04% of the time for Units 3 and 4.

The number of occurrences with visibility less than 5 miles have been plotted against the hour of day as Figure 4 in Attachment VIS-121B. These instances occur throughout the day with most of these instances occurring in the afternoon and evening.

e. The data, assumptions, and calculations used to derive the estimates found in Responses a, b, c, and d above, are as previously described.

ATTACHMENT

VIS-121B
(Not in Electronic/ CD-Rom Version)

MOUNTAINVIEW POWER PLANT PROJECT
DATA REQUEST
(00-AFC-2)

Technical Area	**Visual Resources**

ORIGINAL REQUEST:

123. Please explain the steps and the specific actions that the applicant has taken or intends to take to work with the County to develop the landscaping/grading plan.

SUPPLEMENTAL RESPONSE:

The Administrative Design Guidelines , as adopted by the Board, and amended September 14, 1995, were erroneously omitted in the original response to data request no. 123. These guidelines, are attached here as Attachment VIS-123A. They were obtained from Mr. Jim Squire, San Bernardino County Planning Commission. Contact information for Mr. Squire is as follows: phone (909) 387-4180 at the San Bernardino Planning Commission, 385 N. Arrowhead Avenue, First Floor, San Bernardino, California 92415-0182.

ATTACHMENT
VIS-123A

Amended 9/14/95

ADMINISTRATIVE DESIGN GUIDELINES

The following guidelines have been created to provide sufficient design guidance for the development of small to medium scale projects. Larger scale projects must also be designed to accommodate these guidelines, but development of this scope may require special design considerations and therefore, additional requirements. As a minimum, these design guidelines provide for the health, safety and welfare of the general public and if they are incorporated into project design an accelerated review and approval of a proposed project can be expected.

The guidelines have been divided into several categories. Each category addresses a principle design issue/requirement that must be satisfied prior to granting project approval. The categories are: parking, pedestrian circulation, vehicular access, drainage and storm water management, open space, fire protection, multiple residential building separations and landscaping/screening. A complete review of these guidelines is recommended prior to initiating design work on a project.

PARKING: Adequate parking shall be provided for each intended use. The number of required spaces depends on the type of development, e.g., residential, commercial, industrial, etc. and is directly related to the volume of traffic expected to be generated by each use. The following parking criteria is to be incorporated into project design.

Location:

- Parking shall be located on the same site as the main use.
- Parking shall not be located within the ultimate right-of-way of a street or highway.
- Parking spaces for the disabled shall be located as near as practical to a primary entrance to a single building, or shall be located to provide for safety and optimum proximity to the entrances of the greatest incidence of use when more than one (1) building is served by the parking lot. Such spaces shall be located so that a disabled individual is not compelled to wheel or walk behind parked cars other than his own. Pedestrian ways which are accessible to the physically disabled shall be provided from each such parking space to related facilities, including curb cuts or ramps as needed. Ramps shall not encroach into any parking space.

Size:

- Each regular parking space shall be a minimum of 9' x 19'.
- Each compact parking space shall be a minimum of 7_' x 15'.
- Each parking space for the disabled shall be a minimum of 14' x 19'. Two adjacent parking spaces for the disabled can be accommodated within a 23' wide area that is lined to provide for a 9' parking area on each side of a 5' loading and unloading area in the center. One in every eight (8) parking spaces for the disabled, but not less than one, shall be served by an access aisle 96 inches wide and shall be designated van accessible. This means that when only one (1) space is required, it shall be seventeen (17) feet wide and outlined to provide a nine (9) foot parking area and an eight (8) foot loading/unloading area on the passenger side. When only two (2) spaces are required, they may be provided within a twenty-six (26) foot-wide area lined to provide a nine (9) foot parking area on each side of a eight (8) foot loading/unloading area in the center. All such spaces may be grouped on one level of a parking structure.
- Each loading zone shall be a minimum of 10' x 20' and 14' clear in height.

Aisle width:

- One-way access drives leading to aisles within a parking area shall be a minimum 12' wide, and within the aisle as follows:

Parking Stall Angle	Minimum Aisle Width
Parallel (0)	12'
1-45	14'
46-60	17'
61-90	24'

- Two-way aisles and two-way access drives leading to aisles within a parking area shall be a minimum width of 24'.

Number of spaces per use:

Business and Commercial Uses:

- General business, except as herein specified: One (1) parking space for each two hundred (200) square feet of building floor area.˚ A minimum of four (4) parking spaces shall be provided for each use.
- Amusement enterprises, commercial recreation and similar uses such as shooting ranges, race tracks, miniature golf course, pitch and putt courses, parks and zoos: One (1) parking space for each four (4) persons using or attending the facilities.
- Automobile sales, boat sales, mobilehome sales, retail nurseries and other open uses not in a building or structure: One (1) parking space for each two thousand (2,000) square feet of open area devoted to display or sales; provided, however, that where such area exceeds ten thousand (10,000) square feet, only one (1) parking space need be provided for each five thousand (5,000) square feet of such area in excess of the first ten thousand (10,000) square feet contained in such area.
- Bowling alleys and billiard halls: Five (5) parking spaces for each bowling lane and two (2) parking spaces for each billiard table.
- Chapels and mortuaries: One (1) parking space for each three (3) fixed seats and for every twenty (20) square feet of seating area where there are no fixed seats, all to be within the main chapel, and one (1) parking space for each four hundred (400) square feet of floor area outside the main chapel.˚ Twenty-four (24) linear inches of bench or pew shall be considered a fixed seat.
- Child care centers: One (1) parking space for each employee or teacher and one (1) parking space for each five (5) children that the facility is designed to accommodate.
- Children's homes: One and one-half (1_) parking spaces for each employee on the largest shift.
- Churches: One (1) parking space for each four (4) fixed seats or for every twenty-five (25) square feet of seating area within the main auditorium where there are no fixed seats.˚ Twenty-four (24) linear inches of bench or pew shall be considered a fixed seat.
- Dance halls: One (1) parking space for each twenty (20) square feet of dance floor area and one (1) parking space for each three (3) fixed seats and for each twenty (20) square feet of seating area where there are no fixed seats.
- Golf courses and driving ranges, but not to include miniature golf courses: Four (4) parking spaces per hole on all golf courses and one (1) parking space per tee for driving ranges.
- Hospital: One (1) parking space for each two (2) patient beds and one (1) parking space for each staff member and employee on the largest shift.
- Medical offices, clinics, veterinary hospitals: Five (5) parking spaces for each doctor or dentist.
- Offices, banks, building and loan associations, business and professional uses: One (1) parking space for each two hundred (200) square feet of floor area.˚ A minimum of four (4) such parking spaces shall be provided.
- Organization camps: One and one-half (1_) parking spaces for each staff member or employee.
- Restaurants, including drive-ins, cafes, night clubs, taverns and other similar places where food or refreshment are dispensed: One (1) parking space for each three (3) fixed seats and/or for every fifty (50) square feet of floor area where seats may be placed.˚ A minimum of ten (10) parking spaces shall be provided. For food establishments with take-out provisions only: One (1) parking space for

each two hundred (200) square feet of building floor area. Additionally, one (1) parking space shall be required for each employee on the largest shift and/or for each vehicle used for delivery purposes, whichever is greater. A minimum of four (4) parking spaces shall be provided for such establishments.

- Skating rinks, ice or roller: One (1) parking space for each three (3) fixed seats and for each twenty (20) square feet of seating area where there are no fixed seats and one (1) parking space for each two hundred and fifty (250) square feet of skating area.˚ Twenty-four (24) linear inches of bench shall be considered a fixed seat.
- Social care facilities: One (1) parking space for each three (3) residents in accordance with the resident capacity of the home as listed on the required license or permit, plus one (1) parking space for each staff member and employee on the largest shift.
- Commercial swimming pools and swimming schools: One (1) parking space for each five hundred (500) square feet of water surface area.˚ A minimum of ten (10) parking spaces shall be provided.
- Theaters, auditoriums, stadiums, sport arenas, gymnasiums and similar places of public assembly: One (1) parking space for each four (4) fixed seats and for every twenty-four (24) square feet of seating area where there are no fixed seats.
- Mini-storage facilities: One (1) parking space for each 200 square feet of office floor area, with a minimum for four (4) parking spaces. If a caretaker's residence is included in the design of the facility, an additional two (2) parking spaces are required. A parking lane shall be provided adjacent to the storage building's openings which is a minimum of nine (9) feet in width and outlined (painted). This parking lane is for temporary parking only thirty (30) minutes maximum. This time restriction must be clearly marked with signs. Driveways adjacent to the parking lane shall be a minimum width of fifteen (15) feet for one-way and twenty-four (24) feet for two-way.

Educational Uses:

- Schools, accredited general curriculum, kindergarten through grade nine (9): One (1) parking space for each staff member, faculty member, and employee.
- Schools, accredited general curriculum, grade ten (10) through twelve (12), colleges and universities, business and professional schools: One (1) parking space for each five (5) students plus one (1) parking space for each staff member, faculty member and employee.
- Special schools or trade schools: One (1) parking space for each three (3) students plus one (1) parking space for each staff member, faculty member, and employee.

Industrial Uses:

Industrial uses of all types, including warehouses or buildings used exclusively for storage purposes, wholesale houses and distributors and public utility facilities including, but not limited to, electric, gas, water, telephone and telegraph facilities not having business offices on the premises: One (1) parking space for each employee on the largest shift or one (1) parking space for each one thousand (1,000) square feet of floor area, whichever is greater, and one (1) parking space for each vehicle operated or kept in connection with the use. For facilities that allocate a portion of the building to office space, one (1) parking space shall be required for each two hundred (200) square feet of office area.

Residential Uses:

- Dwellings, including multiple dwellings.˚ Two (2) parking spaces on the same site with the main building for each dwelling unit.˚ Such parking spaces shall be located to the rear of the front setback line except that in mountain areas the parking spaces may be located within the setback areas.˚ Tandem parking shall be prohibited except in mountain areas.
- Clubs, conference centers, fraternity and sorority houses, rooming and boarding houses and similar structures having guest rooms: One (1) parking space for each three (3) guest rooms.˚ In dormitories, each one hundred (100) square feet shall be considered equivalent to a guest room.

- Mobilehome parks: Two (2) parking spaces (which may be in tandem) on each mobilehome lot.˚ There shall also be established and maintained within each mobilehome park one (1) parking space for each ten (10) spaces or fraction thereof within the mobilehome park, for visitor use.
- Motels, hotels, and motor hotels: One (1) parking space for each unit.

Parking For the Disabled:

- The number of parking spaces required for the disabled for multifamily residential, commercial, industrial, institutional and public uses, is established as follows:

Total Number of Parking Spaces	Number of Parking Spaces Required For The Disabled
1 - 25	1
26 - 50	2
51 - 75	3
76 - 100	4
101 - 150	5
151 - 200	6
201 - 300	7
301 - 400	8
401 - 500	9
501 - 1000	2 percent of total
1001 and over	20 plus 1 for each 100 or fraction thereof over 1001.

Site Plan Requirements:

- Formula used to calculate the number of spaces required for each use/unit type of surfacing.
- Directional arrows.

Design Requirements:

- The parking area shall be designed so that a car entering the parking area shall not be required to enter a street to move from one location to any other location within the parking area or premises.
- Parking and maneuvering areas shall be so arranged that any vehicle entering a vehicle right-of-way can do so traveling in a forward direction.
- Head-in parking shall not be permitted where curbs and gutters do not exist and where vehicular access to the private property is not restricted by barriers.
- Compact spaces shall be grouped.
- Driveways and parking areas should be clearly defined with physical barriers.

PEDESTRIAN CIRCULATION: A system of pedestrian walks shall be designed into projects. Walks shall provide for safe, convenient access to all buildings and for safe pedestrian circulation throughout a development between facilities and locations where need for pedestrian access can be anticipated.

Location:

- Walks shall be located such that a minimum vertical clearance of seven (7) feet from all permanent or temporary obstructions is achieved.

Size:

- Minimum walk width shall be four (4) feet except abutting a parking bay or court where it shall be six (6) feet in order to accommodate car overhangs.

VEHICULAR ACCESS: The number and location of curb cuts and driveways shall be determined by the San Bernardino County Road Planning and Design Standards Manual.

DRAINAGE AND STORM WATER MANAGEMENT: Buildings, structures, streets, paved areas and utilities shall be located on the site in areas of the least potential groundwater hazard. Grades shall not be designed which direct a concentrated flow of surface drainage over unprotected slopes. Where storm drainage flow is concentrated, permanently maintainable facilities which can include vegetation shall be provided to prevent significant erosion and other damage or flooding on site or on adjacent properties.

Drainage should be designed using surface drainage, subsurface drainage or both to accommodate storm runoff without adversely affecting structures. All drainage issues shall be addressed as specified in the San Bernardino County Hydrology Manual.

OPEN SPACE: Adequate open space shall be required for multi-family projects of four or more dwelling units, mobilehome parks and all residential portions of planned developments. Open space shall be the total area of land or water within the boundaries of the project that is designed and intended for use and enjoyment as open space areas. Open space areas within these projects are areas not covered by buildings, pavement or accessory structures (except recreational areas such as outdoor swimming pools, tennis courts and other unenclosed recreational facilities) and are accessible and available to occupants of the development.

Open space is categorized as either private or common. Private open space is open space directly adjoining the living areas of dwelling units and is intended for the private enjoyment of the dwelling unit residents. Common open space is open space designed and set aside for all occupants of a designated development. The following open space criteria shall be incorporated into project design.

Total open space (private and common):

- 40% minimum for residential portions of planned developments.
- 30% minimum for multi-family project and mobilehome parks.

Private open space:

- Each dwelling unit shall have a minimum contiguous private open space area of 225 square feet (ground floor) or 60 square feet (upper story dwelling with no ground floor).

Common open space:

- Each project or planned development residential area shall be developed with a minimum 5% of common open space. This 5% shall be counted as part of the total open space requirement.
- Land in public utility easements may be included in the common open space provided the use of the land is not restricted for recreational purposes.
- Not more than half the required open space may consist of storm drainage reservation land.
- All dwelling units shall be within 500 feet of a common open space or other public park/recreation area accessible to the project's residents.
- Each project or planned development residential area common open space shall be developed with at least one 10 foot wide (minimum) unencumbered access easement from a public street.

FIRE PROTECTION: Fire protection requirements are determined by type of use, location and project design. The following criteria shall be incorporated into project design.

Location:

- In Fire Safety Overlay areas, Fire Department access roads shall be paved and 26 feet wide.
- In Fire Safety Overlay areas, Fuel modification for a distance of 50 to 300 feet is required.
- In Fire Safety Overlay areas, building side setbacks shall be 15 feet from property line.
- Road grades shall not exceed 12%.

Type of use:

- Two points of vehicular access are required.
- Approved fire hydrants shall be provided every 300 feet with the exception of single family residential which requires a fire hydrant to be within 400 feet of the residence.
- Minimum residential fireflow is 1000 GPM.
- Minimum commercial fireflow is 2000 GPM.
- Minimum industrial fireflow is 3000 GPM.
- Illuminated street addresses with 4 inch numbers for residential projects are required.

- Illuminated street addresses with 8 inch numbers for commercial/industrial projects are required.

Project design:

- Fire access roads which exceed 150 feet in length shall be 20 feet in width.
- An approved turn around is required for driveways and roads which exceed 150 feet.
- Fire Department access shall be provided to within 150 feet of any portion of the building.
- Security gates shall require approved Fire Department key boxes.

MULTIPLE RESIDENTIAL BUILDING SEPARATIONS: The following separations shall apply to any lot containing two (2) or more dwelling units which are in separate detached structures. The separations shall be between opposite exterior walls. Walls shall be considered opposite if a perpendicular line drawn in a horizontal plane from one structure intersects another structure's wall. The front side of a unit is the one containing the primary entrance to the dwelling unit.

Building Orientation	Separation (feet)
Side-to-side	10
Rear-to-rear or front-to-side	15
Front-to-rear	20
Front-to-front or interior court space	25
Interior court space with parking access	30
All others	20

LANDSCAPING AND SCREENING STANDARDS: Landscaping and screening, consisting of trees, shrubs, flowers, ground covers, hardscape materials, fencing, walls, or any combination thereof shall be installed and maintained for all new development, or the new development portion of a site, **only.** Landscaping shall correlate to the climate, soil, related natural resources and existing vegetation of the site, as well as the type of development proposed. Landscaping enhances the appearance of buildings and grounds, provides shade for leisure and recreational areas, reduces noise and erosion, and provides necessary buffering between incompatible uses. The following standards do not apply to one single family residence on a lot, or to parcel maps, or to tracts, but may be used as landscape guidelines for those developments, as necessary.

COUNTYWIDE LANDSCAPING REQUIREMENTS:

- Planting Design
  (1) Planting design shall coordinate new plant materials and their growth requirements with the climate, soil, orientation, water courses, existing vegetation, fire prevention needs, related natural resources and man-made facilities.
  (2) Maintenance intensive landscaping should be held to a minimum and located near primary use areas.
  (3) Native plant materials or locally adaptable drought tolerant plantings capable of surviving the prevailing climatic and soil conditions with a minimum of supplemental water are strongly encouraged.
  (4) In order to reduce evaporation, competition for water, weed growth and damage to trees and shrubs, the use of mulch in shrub areas and within eighteen inches of tree trunks is strongly encouraged.
  (5) New plant materials should represent a good planting variety. Use of one predominant species should be avoided to prevent spread of disease.
  (6) Plant materials shall be utilized in locations appropriate to their known climatic and environmental requirements and spaced to allow mature growth.
  (7) Plants having similar water use shall be grouped according to water requirements.

(8) Any plant materials may be used in the landscape design, providing the Estimated Water Use (EWU) of the project does not exceed the Maximum Applied Water Allowance (MAWA).
(9) Turf areas shall be minimized, and those turf areas requiring motorized maintenance shall be limited to 50% of all portions of the site requiring groundcover. The exception to this would be large recreational areas where the specific use dictates the need for turf, such as a playing field.
(10) Any trees/shrubs shall be planted so as not to conflict with planned or existing overhead utility lines, or any clear sight triangle.
(11) Any trees planted shall be located not less than 25 feet from the beginning of curb returns at intersections; 10 feet from street lights; 10 feet from fire hydrants; and 10 feet from driveways.

- Existing Plant Materials
  Healthy, existing plant materials shall be used to meet landscape requirements wherever possible. All existing trees shall be retained on site unless otherwise approved in writing by the Planning Department, or the proper removal permit is granted in accordance with Division 9 of this Title.

- Landscapes shall be maintained to ensure water efficiency and healthy appearance. A regular maintenance schedule shall include, but not be limited to, checking, adjusting, and repairing the irrigation equipment; resetting the automatic controller; aerating and dethatching turf areas; replenishing mulch; fertilizing; pruning, weeding, removing litter and replacement of plants as required. All pruning should be in accordance with the adopted pruning standards of the Western Chapter of the International Society of Arboriculture.

- Parking lots:
  -- A minimum of five percent of the gross area used for parking and drive aisles shall be landscaped, except where parking lots are not required to be paved.
  -- Parking lots shall be landscaped with plant materials, hardscape, **or** any combination thereof.
  -- Landscaping shall be distributed throughout the parking area so as to provide maximum shade and reduction of reflective heat.
  -- Landscaping adjacent to parking spaces shall be protected by a raised curb.
  -- Parking spaces adjacent to landscaping shall be as required for either regular or compact spaces, measured from the landscape curb.
  -- Parking lot tree planters shall be a minimum of 15 square feet and protected by a raised curb.
  -- Healthy, existing vegetation in any parking lot area shall be used wherever possible to meet the five percent landscaping requirement.
  -- Preservation of trees may be used to waive parking space requirements with the approval of the Planning Department.
- Common Open Space areas proposed in multi-residential projects, mobile home parks, and residential portions of Planned Developments shall be landscaped to provide shade for areas where benches, picnic tables, water fountains, or other similar improvements are planned.
- Required Quantities:
  The quantity of trees, shrubs and ground covers shall be sufficient to fulfill the requirements of the property as interpreted by the Planning Department, based upon professional site design analysis and customary planting treatments in the general locale.

  (1) General Landscaping: For general landscaping, the specifications listed in Table 1 shall be utilized. Additional quantities may be required for boundary landscaping, interior parking landscaping, screening and slope stabilization.

  (2) Slope Stabilization: In addition to general landscaping, slopes shall be protected from erosion by suitable drought tolerant landscaping or other appropriate plant materials. Decorative rock, boulders or other suitable hardscape material may be utilized, but live plant materials should comprise at least fifty percent of slope landscaping. Trees and shrubs may be used as a part of slope landscaping where appropriate.

(3) Interior Parking Lot Landscaping: Not less than five percent of the gross area for parking and drives shall be landscaped.

- Minimum Landscape Requirements.

TABLE 1
MINIMUM LANDSCAPE REQUIREMENTS

General Type Use or Structure	Minimum Landscape Area ***		Basic Requirement		Additional Requirement Per 1,000 Sq. Ft. of Landscape Area	
	As a % of Project Area	Area In Square Feet	Trees	Shrubs	Trees	Shrub
RESIDENTIAL						
R.V. Park	5%	100*	1*	3*	1	
Mobile Home Park	5%	500**	2**	5**	2	
Garden Apartment	12%	500**	2**	5**	1	
Multi-Family	10%	1,000**	2**	5**	1	
Single Family	N/A	1,500**	2**	10**	N/A	N/A
RETAIL						
Freestanding < 6,000 Sq. Ft. GFA	3%	200	3#	9#	1	
Freestanding > 6,000 Sq. Ft. GFA	5%	500	3#	9#	1.5	
Strip Commercial	5%	500	3#	9#	1.5	
Shopping Center	5%	500	3#	9#	1.5	
Open Lot Sales	2%	500	3#	9#	1	
OFFICE						
Freestanding < 6,000 Sq. Ft. GFA	8%	800	4#	12#	1.5	
Freestanding > 6,000 Sq. Ft. GFA	9%	800	4#	12#	1.5	
Office Park	10%	800	4#	12#	1.5	
INDUSTRIAL/WAREHOUSE						
Freestanding < 10,000 Sq. Ft. GFA	3%	500	3#	9#	1	
Freestanding > 10,000 Sq. Ft. GFA	5%	500	3#	9#	1	
Industrial Park	7%	500	3#	9#	1.2	
Heavy Industrial	2%	500	3#	9#	1	
INSTITUTIONAL	12%	500	4#	12#	1.5	

* Per space ** Per Dwelling Unit # Per Project
*** The factor resulting in the larger landscape area shall be used.

- Minimum Sizes

The following minimum sizes shall apply:

TABLE 2
MINIMUM PLANT SIZES

General Landscaping and Screening

Shade Trees	1 1/2" Caliper
Palm & Ornamental Trees	6 - 8’
Evergreen Trees	5 - 6’
Large shrubs	18 - 24"
Medium Shrubs	12 - 15"
Small Shrubs	1 Gal.

Slope Stabilization

Trees	1 Gal.
Shrubs	1 Gal.

REGIONAL LANDSCAPING REQUIREMENTS:

Valley Region:

- Existing trees which are removed to accommodate development shall be replaced at the rate of 2:1. Fruit or nut bearing trees planted in groves shall be exempt from this provision. Replacement trees shall be a minimum 15 gallon size.
- Recommended plant materials include, but are not limited to deciduous and evergreen varieties which are drought tolerant or native. NOTE: Existing native trees with a six inch or greater stem diameter or 19 inches in circumference measured at 4-1/2 feet above the average ground level of the tree base shall not be removed except under permit from the County and in accordance with any applicable ordinance, except as provided for herein. For the Valley Region, native trees are defined as three or more palm trees in linear plantings which are 50 feet or greater in height in established windrows, or parkway plantings are considered heritage trees.
- All building setback areas shall be landscaped except for sites where no disturbance of the natural terrain within a setback is proposed, and the natural terrain precludes setback landscaping (e.g., mountainsides or hillsides).
- All slopes 5:1 ratio or greater, cut slopes five feet vertical height or greater, and fill slopes three feet vertical height or greater, shall be protected against damage from erosion. Groundcover requiring minimal or no irrigation, hardscape, or any combination thereof may be used. Trees and shrubs shall be provided on slopes of 15 feet vertical height or greater, spaced sufficiently to allow adequate growth, and in visually attractive groupings.
- Parking lot planters shall provide a minimum of one 15 gallon, multi-branched tree, unless healthy, existing trees are used in the planters.
- Irrigation shall be kept to the minimum level necessary to maintain plant materials in a healthy state. Irrigation shall be provided by drip, mister, or other non-aerial water serving method or system.

Desert Region:

- Recommended plant materials include, but are not limited to native, succulent, drought and infestation tolerant deciduous and evergreen varieties. NOTE: Existing desert native plants, or any part thereof except the fruit, shall not be removed except under permit issued by the Agricultural Commissioner, or other applicable County Reviewing Authority. Therefore, except as provided for herein, replacement of such desert native plants shall be in accordance with applicable ordinances. (Ref: Development Code, Division 9 Chapter 4.)
- Joshua Trees shall be relocated on site unless otherwise specifically permitted in writing by the Planning Department. *NOTE: Existing desert native plants, or any part thereof except the fruit, shall not be removed except under permit issued by the Agricultural Commissioner, or other applicable County Reviewing Authority. Therefore, except as provided for herein, replacement of such desert native plants*

shall be in accordance with applicable ordinances.(Ref: Development Code, Division 9 Chapter4.)

- All building setback areas shall be landscaped using xeriscape type landscaping, hardscape materials, or any combination thereof. For sites where no parking area paving is required, and no disturbance of land within setbacks is proposed, landscaping may not be required. **ONLY** those parking lots required to be paved shall be landscaped.
- All slopes 5:1 ratio or greater, cut slopes five feet vertical height or greater, and fill slopes three feet vertical height or greater, shall be protected against damage from erosion. Plant, hardscape, and any other materials approved by the Planning Department may be used in any combination.
- Irrigation shall be kept to the minimum level necessary to maintain plant materials in a healthy state. Irrigation shall be provided by drip, mister, or other non-aerial water serving method or system.

Mountain Region:

- Any landscaping proposed shall be in conjunction with a forest conservation plan and insect infestation prevention program, prepared by a Registered Professional Forester (RPF), and submitted by the developer. Said plan shall include guidelines for tree preservation, both during and after construction.
- Existing trees which are removed to accommodate development shall be replaced according to recommendations of a forest conservation plan required to be submitted by the developer.
- Wherever possible, preservation of existing trees in natural locations shall be used to meet site landscaping requirements.
- Non-natural irrigation shall not be required.
- Recommended plant materials include, but are not limited to native, drought and infestation tolerant, fire-resistant and wherever applicable, deciduous evergreen varieties. Existing native trees with a six inch or greater stem diameter or 19 inches in circumference measured at 4-1/2 feet above the average ground level of the tree base shall not be removed except under permit from the County and in accordance with any applicable ordinance, except as provided for herein.
- A minimum of five feet along all property lines shall be landscaped except for sites where no disturbance of the natural terrain within that five foot area is proposed.
- All slopes 5:1 ratio or greater, cut slopes five feet vertical height or greater, and fill slopes three feet vertical height or greater, shall be protected against damage from erosion any type of hardscape, or any combination thereof may be used.

COUNTYWIDE SCREENING/BUFFERING REQUIREMENTS: A landscaped area which provides an opaque screen and buffers incompatible uses may be required along any lot boundary. Screening shall not intrude upon clear sight triangles for streets or sidewalks. Should planting materials utilized as screening fail to provide adequate screening within eighteen months of installation, a wall, berm, or fence may also be required. Wherever residential uses are proposed adjacent to existing non-residential development, the proposed development shall be responsible for providing adequate landscape screening/buffering. Residential uses in any land use district (which may include a portion of an institutional development) adjacent to industrial uses must be screened by a concrete masonry wall, six feet in height, as measured from the residential use side, along the property line, in addition to buffering requirements.

Voltage boxes, mailboxes, trash enclosures, maintenance structures, backflow devices, automatic controls, air conditioning/heating units, etc., shall be screened from view using fencing, walls, **or** plantings, **or** any combination thereof.

Buffering shall be provided in accordance with the requirements shown in Table 3, and screening may consist of any combination of the following:

- Walls: A wall shall consist of decorative concrete, stone, brick, stucco, tile or similar type of masonry material with a minimum thickness of four inches.
- Berms: A berm should be not more than thirty feet in width at the base. It shall be constructed of earthen materials and landscaped.
- Fences: A solid fence shall be constructed of wood, masonry, or other materials with a minimum nominal thickness of one inch and it shall form an opaque screen. An

open fence may be an open weave or mesh type fence. Open fences shall be combined with landscape materials to form an opaque screen.

- Plantings: Plant materials, when used as a screen, shall consist of compact evergreen or other suitable plants. They shall be of a type, or used in such a manner as to provide screening, having a minimum thickness of two feet within eighteen months of planting.

Table 3 Minimum Landscape Buffer (in feet)

Adjacent Use Class. / Proposed Use Classification	Single Family	Multi-Family	Agricul-ture I	Agricul-ture II	Commer-cial I	Commer-cial II	Industrial I	Industrial II
Single Family	N/R	5	5	10	10	10	10	10
Multi-Family	5	N/R	5	10	10	10	10	10
Agriculture I	5	5	N/R	N/R	10	5	5	5
Agriculture II	10	10	N/R	N/R	10	5	5	5
Commercial I	5	5	5	10*	N/R	5	5	5
Commercial II	10	10	5	5	5	N/R	5	5
Industrial I	10	10	5	5	5	5	N/R	0
Industrial II	10	10	5	5	5	5	0	N/R

N/R =Not Required

* Except in the Mountain Region where it shall be 5 feet.

Classification Groupings:

- Agriculture I
  - -- Row, Field, Tree, and Nursery Crop Cultivation
- Agriculture II
  - -- Animal Raising.
  - -- Commercial Kennels and Catteries.
  - -- Wholesale Trade of Livestock.
  - -- Cow and Goat Dairies.
  - -- Agriculture Support Services.
- Commercial I
  - -- Professional Services.
  - -- Retail Trade/Personal Services I/II.
  - -- Open Lot Services I.
  - -- Lodging Services.
  - -- Recreational/Entertainment Services I.
  - -- Repair Services I.
  - -- Convenience/Support Services.
- Commercial II
  - -- Open Lot Services II.
  - -- Recreational/Entertainment Services II.
  - -- Repair Services II and III.
- Industrial I
  - -- Manufacturing Operations I.
  - -- Wholesale/Warehousing I and II.
  - -- Transportation Services I.
- Industrial II
  - -- Manufacturing Operations II.
  - -- Contract Construction Services.
  - -- Transportation Services II.
  - -- Salvage Operations.

Amended 9/14/95

LANDSCAPE PLAN REQUIREMENTS: Landscaping plans shall be submitted to the Planning Department for review and approval using the appropriate application. Two copies of a Landscaping and Irrigation plan shall be submitted, detailing the following:

(a) North arrow and scale (architectural or engineering scale).
(b) Names, addresses and phone numbers of person or firm responsible for preparation of the plan and the applicant.
(c) Project name(s), Assessor Parcel Number and Section, Township and Range.
(d) Location of all buildings, utility lines, sidewalks, parking areas, trash enclosures, signs, walls, fences and exterior mechanical equipment.
(e) Indication on plans of any objectionable views on adjacent property.
(f) Indicate on plan the adjacent land uses.
(g) Location, size and species of all existing trees on site.
(h) Location, species and size of all existing shrubs to be retained.
(i) Location and identification of all landscape materials proposed for the site.
(j) Location of irrigation points.
(k) A schedule of plant materials indicating the number, common and scientific name, and size.
(l) Calculation of gross lot area excluding road improvements, parking and driveway area, and landscape area.
(m) Calculation of open space and landscaped areas as a percentage of lot area.
(n) Calculation of hardscape area and xeriscape area in square feet.
(o) Calculation of interior parking landscape area as a percentage of parking and driveway area.
(p) Calculation of Maximum Applied Water Allowance (Annual and Monthly).
(q) Attach copy of irrigation system plans and calculations.
(r) Attach copy of soil analysis.
(s) Attach copy of Water Conservation Concept Statement.

EQUIPMENT REQUIREMENTS:

(a) Meters: For irrigated landscape areas in excess of 20,000 square feet, separate water meters shall be installed for landscaping.
(b) Controllers: Automatic control systems are required for all projects and must be able to accommodate all aspects of the design.
(c) Valves: Plants which require different amounts of water shall be irrigated by separate valves. If one valve is used for a given area, only plants with similar water use shall be used in that area. Antidrain (check) valves shall be installed at strategic points to minimize or prevent low-spot drainage, runoff, and subsequent erosion from low elevation sprinkler heads.
(d) Sprinkler heads: Heads and emitters shall have consistent application rates within each control valve circuit. Sprinkler heads shall be selected for proper area coverage, application rate, operating pressure, adjustment capability, and ease of maintenance.
(e) Miscellaneous Devices: All systems shall conform to local backflow and cross connection codes. Rain sensing override devices are required on all irrigation systems for irrigated landscaped areas. Moisture sensing devices are encouraged where appropriate.